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(FILE 'HOME' ENTERED AT 08:55:48 ON 27 JAN 2005)

FILE 'HCA' ENTERED AT 08:56:00 ON 27 JAN 2005

E COATING/CV

E COATINGS/CV

L1 43471 SEA ABB=ON PLU=ON ("COATING(S)"/CV OR COATINGS/CV)

E COATING MATERIAL/CV

E COATING MATERIALS/CV

L2 255104 SEA ABB=ON PLU=ON "COATING MATERIALS"/CV

E COATING PROCESS/CV

L3 115865 SEA ABB=ON PLU=ON "COATING PROCESS"/CV

L4 393973 SEA ABB=ON PLU=ON (L1 OR L2 OR L3)

L5 254567 SEA ABB=ON PLU=ON COATINGS/SC,SX

E US20040091716/PN

L6 1 SEA ABB=ON PLU=ON US20040091716/PN

D SCAN

SEL L6 RN

FILE 'REGISTRY' ENTERED AT 09:02:14 ON 27 JAN 2005

L7 7 SEA ABB=ON PLU=ON (25987-66-0/BI OR 33007-83-9/BI OR  
666727-45-3/BI OR 666727-46-4/BI OR 666846-98-6/BI OR  
79103-62-1/BI OR 88993-23-1/BI)

L8 1 SEA ABB=ON PLU=ON 25987-66-0/RN

D SCAN

L9 1 SEA ABB=ON PLU=ON 33007-83-9/RN

L10 1 SEA ABB=ON PLU=ON 666727-45-3/RN

L11 1 SEA ABB=ON PLU=ON 666727-46-4/RN

L12 1 SEA ABB=ON PLU=ON 666846-98-6/RN

L13 1 SEA ABB=ON PLU=ON 79103-62-1/RN

L14 1 SEA ABB=ON PLU=ON 88993-23-1/RN

FILE 'HCA' ENTERED AT 09:18:49 ON 27 JAN 2005

L15 360 SEA ABB=ON PLU=ON L8

L16 60 SEA ABB=ON PLU=ON SETALUX?

L17 416 SEA ABB=ON PLU=ON L15 OR SETALUX?

L18 1 SEA ABB=ON PLU=ON L11

L19 1 SEA ABB=ON PLU=ON AUTOCLEAR?(2A)VISION?

L20 1 SEA ABB=ON PLU=ON AUTOCLEAR?(2A)VISION? OR L18

D SCAN

L21 0 SEA ABB=ON PLU=ON (L9/D OR L9/DP) (L) (THIOL OR MERCAP?  
OR SH) (2A) (GROUP? OR MOIET? OR ADDUCT?)

L22 15 SEA ABB=ON PLU=ON (L9/D OR L9/DP) (L) (THIOL OR MERCAP?  
OR SH)

D SCAN

L23 37704 SEA ABB=ON PLU=ON (THIOL OR MERCAP? OR SH) (2A) (GROUP?

OR MOIET? OR ADDUCT?)

L24 1211 SEA ABB=ON PLU=ON L23 (2A) REACTIVE?

L25 3944 SEA ABB=ON PLU=ON L23 (2A) REACT?

L26 306 SEA ABB=ON PLU=ON (COMMON? OR SHARED OR SHARING) (2A) BOUNDAR?

L27 QUE ABB=ON PLU=ON POLYMER## OR HOMOPOLYMER## OR COPOLYMER## OR TERPOLYMER## OR RESIN? OR GUM?  
D QUE L23

L28 1 SEA ABB=ON PLU=ON L4 AND L23 AND L26  
D SCAN  
D QUE L23

L29 481 SEA ABB=ON PLU=ON L4 AND L23

L30 379 SEA ABB=ON PLU=ON L29 AND L27

L31 32 SEA ABB=ON PLU=ON L4 AND L25 AND L27

L32 1 SEA ABB=ON PLU=ON L31 AND BOUNDAR?  
D SCAN

L33 QUE ABB=ON PLU=ON LAMEL? OR LAMIN? OR MULTILAYER? OR MULTICOAT? OR MULTIFILM?

L34 QUE ABB=ON PLU=ON (MULTI OR MULTIPL? OR PLURAL? OR THREE OR MANY OR NUMEROUS? OR SEVERAL? OR FEW OR MULTIFOLD? OR MANIFOLD? OR MULTITUD?) (2A) (LAYER? OR COAT? OR FILM?)

L35 QUE ABB=ON PLU=ON THREEPLY? OR THREEPLIES OR THREEPLIED OR (THREE OR 3) (2A) (PLY OR PLIES OR PLIED OR PLYING#)

L36 29 SEA ABB=ON PLU=ON L29 AND (L33 OR L34 OR L35)

L37 27 SEA ABB=ON PLU=ON L30 AND (L33 OR L34 OR L35)

L38 2 SEA ABB=ON PLU=ON L31 AND (L33 OR L34 OR L35)  
D SCAN

L39 57 SEA ABB=ON PLU=ON L37 OR L31

L40 240796 SEA ABB=ON PLU=ON BOUNDAR?

L41 1 SEA ABB=ON PLU=ON L40 AND L39

L42 7136 SEA ABB=ON PLU=ON ISOCYANAT? (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L43 16937 SEA ABB=ON PLU=ON EPOXY? (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L44 38 SEA ABB=ON PLU=ON (MICHAEL (2A) ACCEPT?) (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L45 1914 SEA ABB=ON PLU=ON ACETAL (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L46 35251 SEA ABB=ON PLU=ON CARBOXYL (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L47 26536 SEA ABB=ON PLU=ON ESTER (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L48 13743 SEA ABB=ON PLU=ON AMIDE (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L49 41 SEA ABB=ON PLU=ON (CYCLOCARBONATE OR CYCLO (A) CARBONATE) (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)

L50 141 SEA ABB=ON PLU=ON (ALKOXY (2A) SILANE) (2A) (GROUP? OR

MOIET? OR ADDUCT? OR RADICAL?)  
 L51 264 SEA ABB=ON PLU=ON (ETHER?(2A)AMINO) (2A) (GROUP? OR  
 MOIET? OR ADDUCT? OR RADICAL?)  
 L52 2069 SEA ABB=ON PLU=ON LACTONE(2A) (GROUP? OR MOIET? OR  
 ADDUCT? OR RADICAL?)  
 L53 1095 SEA ABB=ON PLU=ON LACTAM?(2A) (GROUP? OR MOIET? OR  
 ADDUCT? OR RADICAL?)  
 L54 93 SEA ABB=ON PLU=ON (CYCLIC?(2A)KETONE? OR CYCLICKETONE?)  
 (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)  
 L55 11 SEA ABB=ON PLU=ON (CYCLIC?(2A)KETENE? OR CYCLICKETENE?)  
 (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)  
 L56 7860 SEA ABB=ON PLU=ON ALDEHYD?(2A) (GROUP? OR MOIET? OR  
 ADDUCT? OR RADICAL?)  
 L57 560 SEA ABB=ON PLU=ON CARBODIIMID?(2A) (GROUP? OR MOIET? OR  
 ADDUCT? OR RADICAL?)  
 L58 143174 SEA ABB=ON PLU=ON (L42 OR L43 OR L44 OR L45 OR L46 OR  
 L47 OR L48 OR L49 OR L50 OR L51 OR L52 OR L53 OR L54 OR  
 L55 OR L56 OR L57) OR L23  
 L59 1211 SEA ABB=ON PLU=ON L58 AND L24  
 L60 3944 SEA ABB=ON PLU=ON L58 AND L25  
 L61 4 SEA ABB=ON PLU=ON L24 AND L42  
 D SCAN  
 L62 2 SEA ABB=ON PLU=ON L61 AND L4  
 D SCAN  
 L63 7547 SEA ABB=ON PLU=ON COVALENT?(2A)ATTACH?  
 L64 0 SEA ABB=ON PLU=ON L63 AND L39  
 L65 84734 SEA ABB=ON PLU=ON COVALENT?  
 L66 1 SEA ABB=ON PLU=ON L65 AND L39  
 D SCAN  
 L67 481 SEA ABB=ON PLU=ON L58 AND L29  
 L68 14 SEA ABB=ON PLU=ON L58 AND L4 AND L23 AND L24  
 L69 32 SEA ABB=ON PLU=ON L31 AND L58  
 L70 57 SEA ABB=ON PLU=ON L39 AND L58  
 L71 915747 SEA ABB=ON PLU=ON CATALYST? OR CAT  
 L72 18 SEA ABB=ON PLU=ON L70 AND L71  
 L73 2642 SEA ABB=ON PLU=ON (BASE OR BASIC?) (2A)NEUTRALIZ?  
 L74 269 SEA ABB=ON PLU=ON L73 AND L71  
 L75 0 SEA ABB=ON PLU=ON L74 AND L70  
 L76 977 SEA ABB=ON PLU=ON LATENT?(2A)L71  
 L77 1 SEA ABB=ON PLU=ON L76 AND L70  
 D SCAN  
 L78 6398 SEA ABB=ON PLU=ON (PHOTO OR LATENT OR BASIC) (2A) (CATALY  
 ST? OR CAT)  
 L79 451 SEA ABB=ON PLU=ON L78 AND L4  
 L80 2 SEA ABB=ON PLU=ON L39 AND L78  
 D SCAN  
 L81 2 SEA ABB=ON PLU=ON L70 AND L78  
 D QUE L81

L82	23173	SEA ABB=ON	PLU=ON	CURING? (2A) AGENT OR ACTOR?
L83	4	SEA ABB=ON	PLU=ON	L82 AND L70
L84	1	SEA ABB=ON	PLU=ON	L37 AND L82
		D SCAN		
L85	41063	SEA ABB=ON	PLU=ON	POLY(A)?ACRYLAT? OR POLYACRYLAT? OR
		POLYMETHACRYLAT?		
L86	319387	SEA ABB=ON	PLU=ON	CELLULOSE
		D QUE L70		
L87	0	SEA ABB=ON	PLU=ON	L85 AND L86 AND L70
L88	3	SEA ABB=ON	PLU=ON	L70 AND L85
L89	306103	SEA ABB=ON	PLU=ON	POLYESTER? OR POLY(A)ESTER?
L90	3	SEA ABB=ON	PLU=ON	L4 AND L23 AND L85 AND L89
L91	5	SEA ABB=ON	PLU=ON	L88 OR L90
L92	0	SEA ABB=ON	PLU=ON	L91 AND L86
L93	0	SEA ABB=ON	PLU=ON	L4 AND L23 AND L85 AND L86
L94	1	SEA ABB=ON	PLU=ON	L4 AND L23 AND L89 AND L86
		D SCAN		
L95	146411	SEA ABB=ON	PLU=ON	POLYURETHAN? OR POLY(A)URETHAN? OR
		URETHANE (2A) POLYMER?		
L96	3	SEA ABB=ON	PLU=ON	L4 AND L23 AND L95 AND L85
		D SCAN		
L97	10433	SEA ABB=ON	PLU=ON	(THIOL OR MERCAP? OR SH) (2A) (CONTAINI
		NG OR CONTG)		
L98	361	SEA ABB=ON	PLU=ON	L95 AND L97
L99	7	SEA ABB=ON	PLU=ON	L98 AND L85
		D SCAN		
L100	42660	SEA ABB=ON	PLU=ON	(BASE? OR CLEAR?) (2A) COAT? OR
		BASECOAT? OR CLEARCOAT?		
L101	1	SEA ABB=ON	PLU=ON	(L13/D OR L13/DP) (L) (THIOL OR
		MERCAP? OR SH) (2A) (CONTAINING OR CONTG)		
		D SCAN		
L102	3826	SEA ABB=ON	PLU=ON	DESMODUR?
L103	1	SEA ABB=ON	PLU=ON	(L13/D OR L13/DP) (L) (THIOL OR
		MERCAP? OR SH)		
L104	1	SEA ABB=ON	PLU=ON	L12
L105	46089	SEA ABB=ON	PLU=ON	(L100 OR L101 OR L102 OR L103 OR
		L104) OR L20		
L106	37	SEA ABB=ON	PLU=ON	L30 AND L105
L107	252756	SEA ABB=ON	PLU=ON	AUTO# OR AUTOMOBIL? OR CAR# OR BUS
		OR BUSES OR BUSSES OR TRUCK? OR SUV OR VEHICL?		
L108	14	SEA ABB=ON	PLU=ON	L30 AND L107
L109	174	SEA ABB=ON	PLU=ON	L4 AND L85 AND L95 AND AQUEOUS
L110	2	SEA ABB=ON	PLU=ON	L109 AND (L97 OR L23)
		D SCAN		
L111	46454	SEA ABB=ON	PLU=ON	L105 OR L17
L112	37	SEA ABB=ON	PLU=ON	L111 AND L30
		D QUE L103		
L113	1	SEA ABB=ON	PLU=ON	(L14/D OR L14/DP) (L) (THIOL OR

L114           1   SEA ABB=ON   PLU=ON   (L10/D OR L10/DP) (L) (THIOL OR  
                   MERCAP? OR SH)  
                   D SCAN  
 L115           1   SEA ABB=ON   PLU=ON   (L11/D OR L11/DP) (L) (THIOL OR  
                   MERCAP? OR SH)  
                   D SCAN  
 L116           43032 SEA ABB=ON   PLU=ON   L100 OR L20 OR L17 OR L104  
 L117           31   SEA ABB=ON   PLU=ON   L116 AND L30  
 L118           3839 SEA ABB=ON   PLU=ON   L22 OR (L101 OR L102 OR L103) OR  
                   (L113 OR L114 OR L115)  
 L119           9   SEA ABB=ON   PLU=ON   L118 AND L30  
 L120           9   SEA ABB=ON   PLU=ON   L118 AND L30 AND L4 AND L27  
 L121           886 SEA ABB=ON   PLU=ON   L4 AND L85 AND L95  
 L122           5   SEA ABB=ON   PLU=ON   L121 AND (L23 OR L97)  
 L123           13   SEA ABB=ON   PLU=ON   L122 OR (L119 OR L120)  
 L124           108 SEA ABB=ON   PLU=ON   L28 OR L31 OR L32 OR L37 OR L38 OR  
                   L39 OR L41 OR L62 OR L66 OR (L68 OR L69 OR L70) OR L72  
                   OR L77 OR L80 OR L81 OR L83 OR L84 OR L91 OR L94 OR L96  
                   OR L99 OR L108 OR L110 OR L112 OR L117 OR L123  
 L125           108 DUP REM L124 (0 DUPLICATES REMOVED)  
 L126           108 SEA L125  
 L127           88   SEA ABB=ON   PLU=ON   L126 AND L5  
 L128           100 SEA ABB=ON   PLU=ON   L28 OR L32 OR L37 OR L38 OR L41 OR  
                   L62 OR L66 OR L68 OR L72 OR L77 OR L80 OR L81 OR L83 OR  
                   L84 OR L91 OR L94 OR L96 OR L99 OR L108 OR L110 OR L117  
                   OR L123  
  
 L129           82   SEA ABB=ON   PLU=ON   L128 AND L5  
 L130           82   DUP REM L129 (0 DUPLICATES REMOVED)

=> d que 1130

L1           43471 SEA FILE=HCA ABB=ON   PLU=ON   ("COATING(S)"/CV OR  
                   COATINGS/CV)  
 L2           255104 SEA FILE=HCA ABB=ON   PLU=ON   "COATING MATERIALS"/CV  
 L3           115865 SEA FILE=HCA ABB=ON   PLU=ON   "COATING PROCESS"/CV  
 L4           393973 SEA FILE=HCA ABB=ON   PLU=ON   (L1 OR L2 OR L3)  
 L5           254567 SEA FILE=HCA ABB=ON   PLU=ON   COATINGS/SC, SX  
 L8           1   SEA FILE=REGISTRY ABB=ON   PLU=ON   25987-66-0/RN  
 L9           1   SEA FILE=REGISTRY ABB=ON   PLU=ON   33007-83-9/RN  
 L10          1   SEA FILE=REGISTRY ABB=ON   PLU=ON   666727-45-3/RN  
 L11          1   SEA FILE=REGISTRY ABB=ON   PLU=ON   666727-46-4/RN  
 L12          1   SEA FILE=REGISTRY ABB=ON   PLU=ON   666846-98-6/RN  
 L13          1   SEA FILE=REGISTRY ABB=ON   PLU=ON   79103-62-1/RN  
 L14          1   SEA FILE=REGISTRY ABB=ON   PLU=ON   88993-23-1/RN  
 L15          360 SEA FILE=HCA ABB=ON   PLU=ON   L8

L17 416 SEA FILE=HCA ABB=ON PLU=ON L15 OR SETALUX?  
 L18 1 SEA FILE=HCA ABB=ON PLU=ON L11  
 L20 1 SEA FILE=HCA ABB=ON PLU=ON AUTOCLEAR? (2A) VISION? OR  
 L18  
 L22 15 SEA FILE=HCA ABB=ON PLU=ON (L9/D OR L9/DP) (L) (THIOL OR  
 MERCAP? OR SH)  
 L23 37704 SEA FILE=HCA ABB=ON PLU=ON (THIOL OR MERCAP? OR  
 SH) (2A) (GROUP? OR MOIET? OR ADDUCT?)  
 L24 1211 SEA FILE=HCA ABB=ON PLU=ON L23 (2A) REACTIVE?  
 L25 3944 SEA FILE=HCA ABB=ON PLU=ON L23 (2A) REACT?  
 L26 306 SEA FILE=HCA ABB=ON PLU=ON (COMMON? OR SHARED OR  
 SHARING) (2A) BOUNDAR?  
 L27 QUE ABB=ON PLU=ON POLYMER## OR HOMOPOLYMER## OR COPOLY  
 MER## OR TERPOLYMER## OR RESIN? OR GUM?  
 L28 1 SEA FILE=HCA ABB=ON PLU=ON L4 AND L23 AND L26  
 L29 481 SEA FILE=HCA ABB=ON PLU=ON L4 AND L23  
 L30 379 SEA FILE=HCA ABB=ON PLU=ON L29 AND L27  
 L31 32 SEA FILE=HCA ABB=ON PLU=ON L4 AND L25 AND L27  
 L32 1 SEA FILE=HCA ABB=ON PLU=ON L31 AND BOUNDAR?  
 L33 QUE ABB=ON PLU=ON LAMEL? OR LAMIN? OR MULTILAYER? OR M  
 ULTICOAT? OR MULTIFILM?  
 L34 QUE ABB=ON PLU=ON (MULTI OR MULTIPL? OR PLURAL? OR THR  
 EE OR MANY OR NUMEROUS? OR SEVERAL? OR FEW OR MULTIFOLD?  
 OR MANIFOLD? OR MULTITUD?) (2A) (LAYER? OR COAT? OR FILM?)  
 L35 QUE ABB=ON PLU=ON THREEPLY? OR THREEPLIES OR THREEPLIE  
 D OR (THREE OR 3) (2A) (PLY OR PLIES OR PLIED OR PLYING#)  
 L37 27 SEA FILE=HCA ABB=ON PLU=ON L30 AND (L33 OR L34 OR L35)  
 L38 2 SEA FILE=HCA ABB=ON PLU=ON L31 AND (L33 OR L34 OR L35)  
 L39 57 SEA FILE=HCA ABB=ON PLU=ON L37 OR L31  
 L40 240796 SEA FILE=HCA ABB=ON PLU=ON BOUNDAR?  
 L41 1 SEA FILE=HCA ABB=ON PLU=ON L40 AND L39  
 L42 7136 SEA FILE=HCA ABB=ON PLU=ON ISOCYANAT? (2A) (GROUP? OR  
 MOIET? OR ADDUCT? OR RADICAL?)  
 L43 16937 SEA FILE=HCA ABB=ON PLU=ON EPOXY? (2A) (GROUP? OR MOIET?  
 OR ADDUCT? OR RADICAL?)  
 L44 38 SEA FILE=HCA ABB=ON PLU=ON (MICHAEL (2A) ACCEPT?) (2A) (GRO  
 UP? OR MOIET? OR ADDUCT? OR RADICAL?)  
 L45 1914 SEA FILE=HCA ABB=ON PLU=ON ACETAL (2A) (GROUP? OR MOIET?  
 OR ADDUCT? OR RADICAL?)  
 L46 35251 SEA FILE=HCA ABB=ON PLU=ON CARBOXYL (2A) (GROUP? OR  
 MOIET? OR ADDUCT? OR RADICAL?)  
 L47 26536 SEA FILE=HCA ABB=ON PLU=ON ESTER (2A) (GROUP? OR MOIET?  
 OR ADDUCT? OR RADICAL?)  
 L48 13743 SEA FILE=HCA ABB=ON PLU=ON AMIDE (2A) (GROUP? OR MOIET?  
 OR ADDUCT? OR RADICAL?)  
 L49 41 SEA FILE=HCA ABB=ON PLU=ON (CYCLOCARBONATE OR CYCLO(A)C

L50 141 SEA FILE=HCA ABB=ON PLU=ON (ARBONATE) (2A) (GROUP? OR MOIET? OR ADDUCT? OR RADICAL?)  
 L51 264 SEA FILE=HCA ABB=ON PLU=ON (ALKOXY (2A) SILANE) (2A) (GROUP?  
 ? OR MOIET? OR ADDUCT? OR RADICAL?)  
 L52 2069 SEA FILE=HCA ABB=ON PLU=ON (ETHER? (2A) AMINO) (2A) (GROUP?  
 OR MOIET? OR ADDUCT? OR RADICAL?)  
 L53 1095 SEA FILE=HCA ABB=ON PLU=ON LACTONE (2A) (GROUP? OR  
 MOIET? OR ADDUCT? OR RADICAL?)  
 L54 93 SEA FILE=HCA ABB=ON PLU=ON LACTAM? (2A) (GROUP? OR  
 MOIET? OR ADDUCT? OR RADICAL?)  
 L55 11 SEA FILE=HCA ABB=ON PLU=ON (CYCLIC? (2A) KETONE? OR  
 CYCLICKETONE?) (2A) (GROUP? OR MOIET? OR ADDUCT? OR  
 RADICAL?)  
 L56 7860 SEA FILE=HCA ABB=ON PLU=ON (CYCLIC? (2A) KETENE? OR  
 CYCLICKETENE?) (2A) (GROUP? OR MOIET? OR ADDUCT? OR  
 RADICAL?)  
 L57 560 SEA FILE=HCA ABB=ON PLU=ON ALDEHYD? (2A) (GROUP? OR  
 MOIET? OR ADDUCT? OR RADICAL?)  
 L58 143174 SEA FILE=HCA ABB=ON PLU=ON CARBODIIMID? (2A) (GROUP? OR  
 MOIET? OR ADDUCT? OR RADICAL?)  
 L61 4 SEA FILE=HCA ABB=ON PLU=ON (L42 OR L43 OR L44 OR L45  
 OR L46 OR L47 OR L48 OR L49 OR L50 OR L51 OR L52 OR L53  
 OR L54 OR L55 OR L56 OR L57) OR L23  
 L62 2 SEA FILE=HCA ABB=ON PLU=ON L24 AND L42  
 L65 84734 SEA FILE=HCA ABB=ON PLU=ON L61 AND L4  
 L66 1 SEA FILE=HCA ABB=ON PLU=ON COVALENT?  
 L68 14 SEA FILE=HCA ABB=ON PLU=ON L65 AND L39  
 L70 57 SEA FILE=HCA ABB=ON PLU=ON L58 AND L4 AND L23 AND L24  
 L71 915747 SEA FILE=HCA ABB=ON PLU=ON L39 AND L58  
 L72 18 SEA FILE=HCA ABB=ON PLU=ON CATALYST? OR CAT  
 L76 977 SEA FILE=HCA ABB=ON PLU=ON L70 AND L71  
 L77 1 SEA FILE=HCA ABB=ON PLU=ON LATENT? (2A) L71  
 L78 6398 SEA FILE=HCA ABB=ON PLU=ON L76 AND L70  
 BASIC) (2A) (CATALYST? OR CAT)  
 L80 2 SEA FILE=HCA ABB=ON PLU=ON (PHOTO OR LATENT OR  
 L81 2 SEA FILE=HCA ABB=ON PLU=ON L39 AND L78  
 L82 23173 SEA FILE=HCA ABB=ON PLU=ON L70 AND L78  
 L83 4 SEA FILE=HCA ABB=ON PLU=ON CURING? (2A) AGENT OR ACTOR?  
 L84 1 SEA FILE=HCA ABB=ON PLU=ON L82 AND L70  
 L85 41063 SEA FILE=HCA ABB=ON PLU=ON L37 AND L82  
 POLY(A) ?ACRYLAT? OR  
 POLYACRYLAT? OR POLYMETHACRYLAT?  
 L86 319387 SEA FILE=HCA ABB=ON PLU=ON CELLULOSE  
 L88 3 SEA FILE=HCA ABB=ON PLU=ON L70 AND L85  
 L89 306103 SEA FILE=HCA ABB=ON PLU=ON L76 AND L70  
 POLYESTER? OR POLY(A) ESTER?  
 L90 3 SEA FILE=HCA ABB=ON PLU=ON L4 AND L23 AND L85 AND L89  
 L91 5 SEA FILE=HCA ABB=ON PLU=ON L82 AND L70  
 L94 1 SEA FILE=HCA ABB=ON PLU=ON L88 OR L90  
 L4 AND L23 AND L89 AND L86

L95 146411 SEA FILE=HCA ABB=ON PLU=ON POLYURETHAN? OR POLY(A)URETH  
AN? OR URETHANE (2A) POLYMER?  
L96 3 SEA FILE=HCA ABB=ON PLU=ON L4 AND L23 AND L95 AND L85  
L97 10433 SEA FILE=HCA ABB=ON PLU=ON (THIOL OR MERCAP? OR  
SH) (2A) (CONTAINING OR CONTG)  
L98 361 SEA FILE=HCA ABB=ON PLU=ON L95 AND L97  
L99 7 SEA FILE=HCA ABB=ON PLU=ON L98 AND L85  
L100 42660 SEA FILE=HCA ABB=ON PLU=ON (BASE? OR CLEAR?) (2A) COAT?  
OR BASECOAT? OR CLEARCOAT?  
L101 1 SEA FILE=HCA ABB=ON PLU=ON (L13/D OR L13/DP) (L) (THIOL  
OR MERCAP? OR SH) (2A) (CONTAINING OR CONTG)  
L102 3826 SEA FILE=HCA ABB=ON PLU=ON DESMODUR?  
L103 1 SEA FILE=HCA ABB=ON PLU=ON (L13/D OR L13/DP) (L) (THIOL  
OR MERCAP? OR SH)  
L104 1 SEA FILE=HCA ABB=ON PLU=ON L12  
L107 252756 SEA FILE=HCA ABB=ON PLU=ON AUTO# OR AUTOMOBIL? OR CAR#  
OR BUS OR BUSES OR BUSSES OR TRUCK? OR SUV OR VEHICL?  
L108 14 SEA FILE=HCA ABB=ON PLU=ON L30 AND L107  
L109 174 SEA FILE=HCA ABB=ON PLU=ON L4 AND L85 AND L95 AND  
AQUEOUS  
L110 2 SEA FILE=HCA ABB=ON PLU=ON L109 AND (L97 OR L23)  
L113 1 SEA FILE=HCA ABB=ON PLU=ON (L14/D OR L14/DP) (L) (THIOL  
OR MERCAP? OR SH)  
L114 1 SEA FILE=HCA ABB=ON PLU=ON (L10/D OR L10/DP) (L) (THIOL  
OR MERCAP? OR SH)  
L115 1 SEA FILE=HCA ABB=ON PLU=ON (L11/D OR L11/DP) (L) (THIOL  
OR MERCAP? OR SH)  
L116 43032 SEA FILE=HCA ABB=ON PLU=ON L100 OR L20 OR L17 OR L104  
L117 31 SEA FILE=HCA ABB=ON PLU=ON L116 AND L30  
L118 3839 SEA FILE=HCA ABB=ON PLU=ON L22 OR (L101 OR L102 OR  
L103) OR (L113 OR L114 OR L115)  
L119 9 SEA FILE=HCA ABB=ON PLU=ON L118 AND L30  
L120 9 SEA FILE=HCA ABB=ON PLU=ON L118 AND L30 AND L4 AND L27  
  
L121 886 SEA FILE=HCA ABB=ON PLU=ON L4 AND L85 AND L95  
L122 5 SEA FILE=HCA ABB=ON PLU=ON L121 AND (L23 OR L97)  
L123 13 SEA FILE=HCA ABB=ON PLU=ON L122 OR (L119 OR L120)  
L128 100 SEA FILE=HCA ABB=ON PLU=ON L28 OR L32 OR L37 OR L38 OR  
L41 OR L62 OR L66 OR L68 OR L72 OR L77 OR L80 OR L81 OR  
L83 OR L84 OR L91 OR L94 OR L96 OR L99 OR L108 OR L110  
OR L117 OR L123  
L129 82 SEA FILE=HCA ABB=ON PLU=ON L128 AND L5  
L130 82 DUP REM L129 (0 DUPLICATES REMOVED)

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=> d l130 1-82 cbib abs hitind

L130 ANSWER 1 OF 82 HCA COPYRIGHT 2005 ACS on STN



*priority  
nine*

140:237212 **Multilayer** coating system comprising thiol-functional compounds. Van Den Berg, Keimpe Jan; Hulsbos, Edith; Rous, Frederik; Meijer, Hendrik; Werkman-Loenen, Judith Johanna Maria Adriana (Akzo Nobel N.V., Neth.). PCT Int. Appl. WO 2004018115 A1 20040304, 54 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-EP8503 20030731. PRIORITY: EP 2002-78356 20020813.

AB The invention relates to a **multilayer** coating system comprising at least one layer comprising a coating composition (a) comprising at least one **resin** and an effective number of **thiol groups**, and at least one layer comprising a coating composition (b) comprising at least one **resin** and an effective number of **thiol-reactive groups**, at least one layer (a) and at least one layer (b) having at least one **common layer boundary**. The invention further relates to the use of the above coating system in the finishing and refinishing of **automobiles** and large transportation **vehicles** and an **aqueous** coating composition comprising a **thiol-containing polyurethane** and a **polyacrylate** dispersion.

*EP 0188880*

IC ICM B05D007-00

ICS C09D175-04; C08G018-62; C08G018-83; C09D201-02

CC 42-10 (Coatings, Inks, and Related Products)

ST **multilayer** coating thiol functional **polyurethane**

IT **Automobiles**

(**multilayer** coating system comprising thiol-functional compds.)

IT **Coating materials**

(**multilayer**; **Multilayer** coating system comprising thiol-functional compds.)

IT **Polyurethanes**, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(**thiol-containing**, coating; **Multilayer** coating system comprising thiol-functional compds.)

IT **33007-83-9DP**, Trimethylolpropane (tris)-3-

**mercaptopropionate**, **thiol-containing**

**polyester-polyurethanes** 79103-62-1DP,

**Desmodur W**, **thiol-containing**

**polyester-polyurethanes** 88993-23-1DP,

Cyclohexanedimethanol-hexahydrophthalic anhydride-neopentylglycol

copolymer, thiol-containing  
polyester-polyurethanes 666727-45-3DP,  
thiol-containing polyester-  
polyurethanes 666727-46-4DP, sulfonated,  
thiol-containing polyester-  
polyurethanes

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM  
(Technical or engineered material use); PREP (Preparation); USES  
(Uses)

(**multilayer** coating system comprising **thiol**  
-functional compds.)

IT 25987-66-0, **Setalux** 6801AQ24 **666846-98-6**  
, **Autoclear Vision**

RL: POF (Polymer in formulation); TEM (Technical or engineered  
material use); USES (Uses)

(**multilayer** coating system comprising thiol-functional  
compds.)

L130 ANSWER 2 OF 82 HCA COPYRIGHT 2005 ACS on STN

141:367407 One-bake process for formation of **multilayer**  
coating films on **automobiles**. Seta, Tsutomu; Ishii, Keizo  
(Nippon Paint Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP  
2004290720 A2 20041021, 11 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 2003-82618 20030325.

AB The process comprises (1) applying radiation- and heat-curable  
coatings on elec. conductive substrates by electrodeposition, (2)  
irradiating with actinic rays, (3) applying  $\geq 1$  layers of  
uncured coatings, and (4) baking. Thus, a Zn phosphate-treated dull  
steel sheet was coated with a composition containing epoxy **resin**  
having sulfonium and propargyl group, irradiated with UV,  
successively spray-coated with an intermediate coating (containing  
polythiol and unsatd. polyester polyol), Aquarex AR 2000 Silver  
Metallic (metallic **base coating**), and Macflow O  
1800W2 Clear (epoxy **resin-based clear**  
**coating**), and baked.

IC ICM B05D007-14

ICS B05D001-36; C25D013-00

CC 42-2 (**Coatings**, Inks, and Related Products)

ST coating **multilayer** one bake **automobile**  
electrodeposition; radiation heat curable coating electrodeposition  
**automobile**

IT **Automobiles**

(bodies; one-bake process for formation of **multilayer**  
coating films on **automobiles**)

IT **Coating process**

(**multilayer**; one-bake process for formation of  
**multilayer** coating films on **automobiles**)

IT Electrodeposits

- (one-bake process for formation of **multilayer** coating films on **automobiles**)
- IT Polyesters, uses  
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(one-bake process for formation of **multilayer** coating films on **automobiles**)
- IT Epoxy **resins**, uses  
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(sulfonium- and propargyl-containing; one-bake process for formation of **multilayer** coating films on **automobiles**)
- IT 593279-82-4, Aquarex AR 2000 Silver Metallic  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(Aquarex AR 2000 Silver Metallic; one-bake process for formation of **multilayer** coating films on **automobiles**)
- IT 107-19-7DP, Propargyl alcohol, reaction products with epoxy **resin** and (hydroxyethylthio)propanediol 1468-40-2DP, 1-(2-Hydroxyethylthio)-2,3-propanediol, reaction products with propargyl-containing epoxy **resin** 97666-48-3DP, Epo Tohto YDCN 701, reaction products with propargyl alc. and (hydroxyethylthio)propanediol 778613-18-6P, Adipic acid-isophthalic acid-neopentyl glycol-phthalic anhydride-trimellitic anhydride-trimethylolpropane **copolymer** glycidyl methacrylate ester, **polymer** with adipic acid-isophthalic acid-neopentyl glycol-phthalic anhydride-trimellitic anhydride-trimethylolpropane **copolymer** carbamate with IPDI-2-**mercaptoethanol** 1:1 **adduct**  
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(one-bake process for formation of **multilayer** coating films on **automobiles**)
- IT 663910-39-2, Macflow O 1800W2 Clear  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(one-bake process for formation of **multilayer** coating films on **automobiles**)

L130 ANSWER 3 OF 82 HCA COPYRIGHT 2005 ACS on STN

139:262292 Fluororubber coating compositions with good pot-life and antifreeze agent resistance. Kinoshita, Toshiyuki; Tomihashi, Nobuyuki; Ogita, Koichiro (Daikin Industries, Ltd., Japan). PCT Int. Appl. WO 2003076535 A1 20030918, 22 pp. DESIGNATED STATES: W: JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2003-JP2171 20030227. PRIORITY: JP 2002-52238 20020227.

AB Title compns., useful for **automobile** engine gasket materials, contain liquid medium-soluble or dispersible fluororubbers, polyol vulcanizers, and **mercapto group**-containing metal compds. A composition containing Dai-el G 801 100, bisphenol AF 2, and

X 41-1805 5 parts showed viscosity increase of <2:1 after 24 h at 40° and was spread on a SUS 301 plate, dried, and baked at 200Å for 30 min to form a film having no blister after soaking in 50% long-life coolant-containing aqueous solution at 120° for 500

h.

IC ICM C09D127-12

ICS F16J015-08

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 39

ST fluororubber polyol vulcanizer mercaptosilane coating antifreeze agent resistance; **automobile** gasket coating fluororubber polyol vulcanizer mercaptosilane; storage stability coating fluororubber polyol vulcanizer mercaptosilane

IT Gaskets

(**automobile** engines; fluororubber compns. containing polyol vulcanizers and mercapto-containing metal compds. for coatings with antifreeze agent resistance for gaskets)

IT **Coating materials**

(storage-stable; fluororubber compns. containing polyol vulcanizers and mercapto-containing metal compds. for coatings with antifreeze agent resistance for gaskets)

IT 25067-11-2, Hexafluoropropylene-tetrafluoroethylene

**copolymer** 357396-46-4, X 41-1805

RL: TEM (Technical or engineered material use); USES (Uses)

(fluororubber compns. containing polyol vulcanizers and mercapto-containing metal compds. for coatings with antifreeze

agent

resistance for gaskets)

IT 9011-17-0D, Hexafluoropropene-vinylidene fluoride **copolymer**, iodine-containing

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(rubber; fluororubber compns. containing polyol vulcanizers and mercapto-containing metal compds. for coatings with antifreeze

agent

resistance for gaskets)

L130 ANSWER 4 OF 82 HCA COPYRIGHT 2005 ACS on STN

139:231992 ~~Waterborne~~ ambient-temperature curable coating compositions.  
Straw, Thomas Allen (UK). U.S. Pat. Appl. Publ. US 2003165701 A1  
20030904, 8 pp. (English). CODEN: USXXCO. APPLICATION: US  
2002-317831 20021212. PRIORITY: EP 2001-204848 20011213; US  
2002-PV360703 20020301.

AB The title coating compns. curable by Michael reaction comprise (A) a  
Michael acceptor, which is a compound or polymer containing  
≥2 olefinic double bonds, and (B) a Michael donor, which is a  
compound or polymer containing ≥2 nucleophilic groups,  
wherein the Michael acceptor (A) contains doubly-activated olefinic  
double bonds and the Michael donor (B) contains thiol  
groups. The coating compns. further comprise a proton  
acceptor and a proton donor.

IC ICM B32B027-00

NCL 428500000

CC 42-8 (Coatings, Inks, and Related Products)

IT Polyesters, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(isobutylidenemalonate-based; waterborne  
coating compns. curable by Michael reaction at ambient  
temperature)

IT Coating materials

(transparent; waterborne coating compns. curable by Michael  
reaction at ambient temperature)

IT Coating materials

(water-thinned; waterborne coating compns. curable by Michael  
reaction at ambient temperature)

L130 ANSWER 5 OF 82 HCA COPYRIGHT 2005 ACS on STN

139:86755 High-molar-mass polyurethane-based protective layer for  
painted surfaces. Schafheutle, Markus A.; Burkl, Julius (Austria).  
U.S. Pat. Appl. Publ. US 2003125457 A1 20030703, 8 pp. (English).  
CODEN: USXXCO. APPLICATION: US 2002-327780 20021223. PRIORITY: AT  
2002-9 20020102.

AB Title protective layer, especially for motor vehicles, is prepared  
from an aqueous dispersion comprising a high molar mass polyurethane A  
and additives B, wherein the polyurethane has a number-average molar

mass

of at least 10 kg/mol and a weight-average molar mass of at least 20  
kg/mol

and wherein the additives B contain mercaptan  
groups, hydrazide groups and/or N-alkylamide  
groups. Thus, polyester polyols prepared from adipic acid,  
isophthalic acid, 1,6-hexanediol, and neopentyl glycol were reacted  
with ethylene glycol, dimethylolpropionic acid, neopentyl glycol,

and isophorone diisocyanate, followed by neutralizing with triethylamine and reacting with ethylenediamine to obtain the polyurethane **resin**. The prepared polyurethane was added adipic dihydrazide as an additive to give a coating composition

- IC ICM C08K003-00  
 NCL 524589000; 524800000  
 CC 42-10 (**Coatings**, Inks, and Related Products)  
 ST adipic isophthalic hexanediol neopentyl glycol dimethylolpropionic isophorone diisocyanate **copolymer**; polyurethane adipic dihydrazide protective layer painted surface  
 IT **Coating materials**  
     (dispersions, water-thinned; high-molar-mass polyurethane-based protective layer for painted surfaces)  
 IT **Coating materials**  
     (for **automobiles**; high-molar-mass polyurethane-based protective layer for painted surfaces)  
 IT Butadiene rubber, uses  
     RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
     (hydroxy-terminated, **polymers** with polyisocyanate and polyols, triethylamine salts; high-molar-mass polyurethane-based protective layer for painted surfaces)  
 IT 9003-17-2P  
     RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
     (butadiene rubber, hydroxy-terminated, **polymers** with polyisocyanate and polyols, triethylamine salts; high-molar-mass polyurethane-based protective layer for painted surfaces)  
 IT 4098-71-9DP, Isophorone diisocyanate, **polymer** with polyols and polybutadiene diols, triethylamine salts 4767-03-7DP, Dimethylolpropionic acid, **polymers** with polyols, polybutadiene diols, and isocyanates, triethylamine salts 516465-46-6P, Adipic acid-ethylenediamine-isophthalic acid-1,6-hexanediol-neopentyl glycol-dimethylolpropionic acid-ethylene glycol-isophorone diisocyanate **copolymer** triethylamine salt 552864-23-0P, Adipic acid-dimethylolpropionic acid-ethylene glycol-1,6-hexanediol-isophorone diisocyanate-isophthalic acid-neopentyl glycol-triethylenetetramine **copolymer** triethylamine salt  
     RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
     (high-molar-mass polyurethane-based protective layer for painted surfaces)  
 IT 68492-72-8P, Adipic acid-isophthalic acid-1,6-hexanediol-neopentyl glycol **copolymer**  
     RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
     (high-molar-mass polyurethane-based protective layer for painted

surfaces)

L130 ANSWER 6 OF 82 HCA COPYRIGHT 2005 ACS on STN

139:382857 Primer antifouling compositions for ships, **multilayer** antifouling coatings for ships, and antifouling method for exterior plates of ships. Masuda, Hiroshi; Suetsugu, Yasuaki (Chugoku Marine Paints, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003327912 A2 20031119, 31 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-131865 20020507.

AB Title compns. comprise **resin** components and reactive functional group-containing silane coupling agents, where the **resin** components are graft **copolymers** comprising vinyl type main chain **polymers** and branched **polymers** of organopolysiloxanes or organopolysiloxane and polyoxyalkylene-containing graft **copolymers**. Thus, a primer comprising X 24-798A graft acrylic polysiloxane 23.0, Denka Vinyl 1000GSK 5.0, KBM 403 coupling agent 2.0, Tipaque CR 50 10.0, NKK-F talc 3.0, Alpaste 1900X 10.0, Disparlon 4200-20 3.0, xylene 25.0, and Me iso-Bu ketone 25.0 parts was applied on a zinc-rich primer and anticorrosive coat-coated cold rolled steel sheet, an antifouling coating composition comprising X 22-8009 graft vinyl polysiloxane 60.0, KF 353 polyether-modified silicone oil 15.0, iso-Pr alc. 10.0, xylene 13.0, Me isobutylketone 2.0, and di-Bu tin dilaurate 0.1 parts was applied thereon and dried at room temperature for 1 mo to give a test piece with good marine species antifouling and adhesion.

IC ICM C09D183-10  
ICS B05D005-00; B05D007-14; B63B059-04; C08F290-14; C09D005-00; C09D005-08; C09D005-16; C09D127-06; C09D153-00; C09D157-00; C09D163-00; C09D183-04

CC 42-10 (**Coatings**, Inks, and Related Products)

IT Polysiloxanes, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(acrylic, graft, X 24-798A, blends with vinyl **polymers**; primer antifouling compns. for ships)

IT **Coating materials**

(antifouling, marine; primer antifouling compns. for ships)

IT Epoxy **resins**, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(blends with graft polysiloxanes; primer antifouling compns. for ships)

IT Polyoxyalkylenes, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(di-Me siloxane-epoxy, graft, X 22-3667, blend with graft

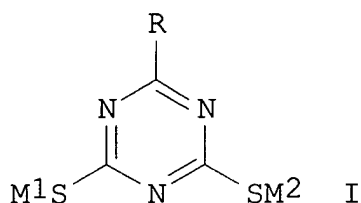
- polysiloxanes and optionally vinyl **polymers**; primer antifouling compns. for ships)
- IT Epoxy **resins**, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(di-Me siloxane-polyoxyalkylene-, graft, X 22-3667, blend with graft polysiloxanes and optionally vinyl **polymers**; primer antifouling compns. for ships)
- IT Polysiloxanes, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(di-Me, epoxy-polyoxyalkylene-, graft, X 22-3667, blend with graft polysiloxanes and optionally vinyl **polymers**; primer antifouling compns. for ships)
- IT Polysiloxanes, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(di-Me, **mercaptopropyl group**-terminated, KF 2001, graft block **copolymers** with acrylic monomers, polysiloxanes, and polyoxyalkylenes; primer antifouling compns. for ships)
- IT **Coating materials**  
(**multilayer**; primer antifouling compns. for ships)
- IT Epoxy **resins**, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyamide-, amine-crosslinked, blend with graft polysiloxanes; primer antifouling compns. for ships)
- IT Polysiloxanes, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(polyoxyalkylene-, graft, vinyl **polymer**-; primer antifouling compns. for ships)
- IT Polyoxyalkylenes, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(polysiloxane-, graft, vinyl **polymer**-; primer antifouling compns. for ships)
- IT Polysiloxanes, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(vinyl compound **polymer**-, graft, X 22-8009, X 22-8031, optionally crosslinked, blends with vinyl **polymers**; primer antifouling compns. for ships)
- IT 80-62-6DP, Methyl methacrylate, graft block **copolymers** with acrylic monomers, polyoxyalkylenes, and polysiloxanes  
103-11-7DP, 2-Ethylhexyl acrylate, graft block **copolymers** with acrylic monomers, polyoxyalkylenes, and polysiloxanes



2530-85-0DP, KBM 503, graft block **copolymers** with acrylic monomers, polyoxyalkylenes, and polysiloxanes 26915-72-0DP, NK Ester M 230G, graft block **copolymers** with acrylic monomers and polysiloxanes 123109-42-2DP, Silaplane FM 0721, graft block **copolymers** with acrylic monomers and polyoxyalkylenes  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (primer antifouling compns. for ships)

L130 ANSWER 7 OF 82 HCA COPYRIGHT 2005 ACS on STN  
 139:357226 Rare earth bonded magnets with antioxidative coatings and their manufacture. Matsuzawa, Hideki (NEC Tokin Corp., Japan).  
 Jpn. Kokai Tokkyo Koho JP 2003309031 A2 20031031, 4 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 2002-112200 20020415.

GI



AB The bonded magnets are manufactured by (i) kneading and molding rare earth alloy powders and **resins**, (ii) electrolytic coating in a solution containing triazine compds. bearing  $\geq 1$  **mercapto groups** I (M1, M2 = H, alkali metal, alkaline earth metal; R = NHR1, NR1R2, SH; R1, R2 = H, alkyl, phenyl), and (iii) forming antioxidative **resin** topcoats. The **laminated** coating structure gives improved anticorrosion property, durability, and stability and reliability of magnetic properties.

IC ICM H01F041-02  
 ICS C08J007-04; C08K003-00; C08L101-00

CC 77-8 (Magnetic Phenomena)  
 Section cross-reference(s): 42

ST triazinedithiol electrolytic coating rare earth bonded magnet;  
 antioxidative **resin** topcoat rare earth bonded magnet

IT **Coating materials**  
 (anticorrosive; manufacture of rare earth bonded magnets with antioxidative electrolytic undercoat of tirazinedithiols and anticorrosive **resin** topcoats)

IT Polyamides, uses  
 RL: NUU (Other use, unclassified); USES (Uses)

(binder; manufacture of rare earth bonded magnets with  
antioxidative  
electrolytic undercoat of tirazinedithiols and anticorrosive  
**resin** topcoats)

IT Magnets  
(bonded; manufacture of rare earth bonded magnets with  
antioxidative  
electrolytic undercoat of tirazinedithiols and anticorrosive  
**resin** topcoats)

IT Acrylic **polymers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(manufacture of rare earth bonded magnets with antioxidative  
electrolytic undercoat of tirazinedithiols and anticorrosive  
**resin** topcoats)

IT **Coating materials**  
(oxidation-resistant; manufacture of rare earth bonded magnets with  
antioxidative electrolytic undercoat of tirazinedithiols and  
anticorrosive **resin** topcoats)

IT Polyimides, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyamide-; manufacture of rare earth bonded magnets with  
antioxidative electrolytic undercoat of tirazinedithiols and  
anticorrosive **resin** topcoats)

IT Polyamides, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyimide-; manufacture of rare earth bonded magnets with  
antioxidative electrolytic undercoat of tirazinedithiols and  
anticorrosive **resin** topcoats)

IT 25038-74-8  
RL: NUU (Other use, unclassified); USES (Uses)  
(assumed monomer, binder; manufacture of rare earth bonded magnets  
with antioxidative electrolytic undercoat of tirazinedithiols and  
anticorrosive **resin** topcoats)

IT 24937-16-4, Nylon 12  
RL: NUU (Other use, unclassified); USES (Uses)  
(binder; manufacture of rare earth bonded magnets with  
antioxidative  
electrolytic undercoat of tirazinedithiols and anticorrosive  
**resin** topcoats)

IT 29529-99-5, 2-Dibutylamino-4,6-dithiol-s-triazine 105658-73-9,  
2-Oleylamino-4,6-dimercapto-s-triazine monosodium salt  
108000-28-8, Boron 1.1, iron bal., neodymium 31  
RL: TEM (Technical or engineered material use); USES (Uses)  
(manufacture of rare earth bonded magnets with antioxidative  
electrolytic undercoat of tirazinedithiols and anticorrosive  
**resin** topcoats)

L130 ANSWER 8 OF 82 HCA COPYRIGHT 2005 ACS on STN

- 139:54341 Corrosion protection methods for weather-resistant steel. Nagai, Masanori; Aoki, Ryuichi; Taki, Toru; Sasaki, Hiroharu; Tanabe, Hiroyuki (Dai Nippon Toryo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003171787 A2 20030620, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-369796 20011204.
- AB Steel is coated with granules of Al, Zn, and alloys thereof and topcoated with color organic-inorg. hybrids prepared from epoxy crosslinking agents and **mercapto group**-containing polyorganosiloxanes, which are prepared by hydrolytically condensing organic Si compds. having **epoxy group-reactive mercapto groups** and Si-bonded hydrolyzable groups with alkoxysilanes or hydrolyzates thereof. Thus, a resin solution contained 20:50:30 DC 3074 (phenyltrimethoxysilane hydrolytic condensate)- $\gamma$ -mercaptopropyltrimethoxysilane-methyltrimethoxysilane copolymer 76, 50% Epikote 1004 100, 70% Epikote 1001 30, and Sanmide D 1100 17 parts.
- IC ICM C23F015-00  
ICS B05D005-00; B05D007-24; B32B015-08
- CC 42-10 (**Coatings, Inks, and Related Products**)  
Section cross-reference(s): 55
- IT **Coating materials**  
(anticorrosive; corrosion-resistant topcoatings containing mercapto polyorganosiloxanes and epoxy resins for weather-resistant steel)
- IT **Coating materials**  
(topcoats; corrosion-resistant topcoatings containing mercapto polyorganosiloxanes and epoxy resins for weather-resistant steel)
- IT **Coating materials**  
(weather-resistant; corrosion-resistant topcoatings containing mercapto polyorganosiloxanes and epoxy resins for weather-resistant steel)
- L130 ANSWER 9 OF 82 HCA COPYRIGHT 2005 ACS on STN
- 138:322341 Photocurable compositions, scratch-resistant, high-refractive index, and transparent cured products therefrom, and **laminates** containing them. Suzuki, Katsumi; Sugiyama, Naoki (JSR Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003119207 A2 20030423, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-314128 20011011.
- AB Title compns., useful for antiglare coatings, etc., contain (A) oxide particles of Si, Al, Zr, Ti, Zn, Ge, In, Sn, Sb, and/or Ce, (B) OH-containing **polymers** with Mw  $\geq 10,000$ , and (C) polyfunctional (meth)acrylates. Thus, a scratch-resistant antiglare transparent **laminates** was manufactured using a composition containing reactive ZrO<sub>2</sub> (prepared from ZrO<sub>2</sub> and **adduct** of **mercaptopropyltrimethoxysilane**, IPDI, and pentaerythritol triacrylate) 78.8, Kayarad DPHA 2C (dipentaerythritol pentaacrylate) 9.8, Denka Butyral 2000L (butyral **resin**) 3.9,

**Catalyst** 4050 (acid generator) 6.5 parts, and photopolymn. initiators.

- IC ICM C08F002-44  
ICS C08F291-08; C08K003-22; C08K009-04; C08L029-04; C08L029-14;  
C08L101-06; C09C001-00; C09C003-10; C09D004-00; C09D005-00
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37, 42
- ST metal oxide antiglare **lamine**te **polymethacrylate**;  
dipentaerythritol pentaacrylate zirconia antiglare **lamine**te  
**polymethacrylate**; butyral **resin** antiglare  
**lamine**te **polymethacrylate**;  
mercaptopropyltrimethoxysilane IPDI pentaerythritol triacrylate  
adduct zirconia; transparent scratch resistant antiglare zirconia  
photocurable
- IT Polyvinyl butyrals  
RL: POF (Polymer in formulation); TEM (Technical or engineered  
material use); USES (Uses)  
(Denka Butyral 2000L; photocurable compns. containing metal oxides,  
OH-containing **polymers**, and polyfunctional (meth)acrylates  
for scratch-resistant antiglare transparent **laminates**)
- IT Transparent materials  
(coatings; photocurable compns. containing metal oxides,  
OH-containing  
**polymers**, and polyfunctional (meth)acrylates for  
scratch-resistant antiglare transparent **laminates**)
- IT Phenolic **resins**, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered  
material use); USES (Uses)  
(novolak; photocurable compns. containing metal oxides,  
OH-containing  
**polymers**, and polyfunctional (meth)acrylates for  
scratch-resistant antiglare transparent **laminates**)
- IT Antireflective films  
(photocurable compns. containing metal oxides, OH-containing  
**polymers**, and polyfunctional (meth)acrylates for  
scratch-resistant antiglare transparent **laminates**)
- IT **Laminated** plastics, uses  
Oxides (inorganic), uses  
**Polymer** blends  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photocurable compns. containing metal oxides, OH-containing  
**polymers**, and polyfunctional (meth)acrylates for  
scratch-resistant antiglare transparent **laminates**)
- IT **Coating materials**  
(photocurable, scratch-resistant; photocurable compns. containing  
metal oxides, OH-containing **polymers**, and polyfunctional  
(meth)acrylates for scratch-resistant antiglare transparent  
**laminates**)

## IT Coating materials

(transparent; photocurable compns. containing metal oxides, OH-containing

**polymers**, and polyfunctional (meth)acrylates for scratch-resistant antiglare transparent **laminates**)

IT 77641-99-7, Kayarad DPHA 2C

RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)

(Kayarad DPHA 2C; photocurable compns. containing metal oxides, OH-containing **polymers**, and polyfunctional (meth)acrylates for scratch-resistant antiglare transparent **laminates**)

IT 1314-23-4DP, Zirconia, reaction products with unsatd. group-containing trimethoxysilane 12673-86-8DP, ATO, reaction products with unsatd. group-containing trimethoxysilane 347144-81-4DP, reaction products with metal oxides 347144-81-4P 407631-43-0DP, FSS 10M, reaction products with unsatd. group-containing trimethoxysilane

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(photocurable compns. containing metal oxides, OH-containing **polymers**, and polyfunctional (meth)acrylates for scratch-resistant antiglare transparent **laminates**)

IT 9002-89-5, Polyvinyl alcohol 514805-19-7, KP 911

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(photocurable compns. containing metal oxides, OH-containing **polymers**, and polyfunctional (meth)acrylates for scratch-resistant antiglare transparent **laminates**)

IT 29570-58-9, Dipentaerythritol hexaacrylate 60506-81-2,

Dipentaerythritol pentaacrylate 137902-72-8, Nikalac MX 302

RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)

(photocurable compns. containing metal oxides, OH-containing **polymers**, and polyfunctional (meth)acrylates for scratch-resistant antiglare transparent **laminates**)

IT 1312-43-2, Indium oxide 1314-13-2, Zinc oxide, uses 1327-33-9,

Antimony oxide 1332-29-2, Tin oxide 1344-28-1, Alumina, uses

7631-86-9, Silica, uses 11129-18-3, Cerium oxide 13463-67-7,

Titania, uses 157858-56-5, Germanium oxide

RL: TEM (Technical or engineered material use); USES (Uses)

(photocurable compns. containing metal oxides, OH-containing **polymers**, and polyfunctional (meth)acrylates for scratch-resistant antiglare transparent **laminates**)

L130 ANSWER 10 OF 82 HCA COPYRIGHT 2005 ACS on STN

137:156165 Radically curable epoxy **resins** and their tack-free compositions with good developability and adhesion strength.

Otsuki, Nobuaki (Nippon Shokubai Co., Ltd., Japan). Jpn. Kokai

Tokkyo Koho JP 2002226548 A2 20020814, 9 pp. (Japanese). CODEN:

JKXXAF. APPLICATION: JP 2001-359799 20011126. PRIORITY: JP 2000-363057 20001129.

- AB The **resins** are manufactured by reaction of epoxy **resins** containing  $\geq 2$  epoxy groups with unsatd. monobasic acids and compds. having one OH group and one functional group selected from CO<sub>2</sub>H, NH<sub>2</sub>, and **SH groups** which are connected through C3-35 hydrocarbon bonds. The compns. are useful for coatings, adhesives, photoresists, etc. Thus, 438 parts cresol novolak epoxy **resin** (EOCN 104S) was reacted with 75 parts 10-hydroxydecanoic acid and 119 parts acrylic acid at 110° to give a **polymer**, which (100 parts) was mixed with 10 parts dipentaerythritol hexaacrylate and applied on a Cu-clad **laminate**, resulting in no tack.
- IC ICM C08G059-14  
ICS C08F299-02
- CC 42-9 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 74
- ST radically curable epoxy **resin** coating developability;  
cresol novolak epoxy **resin** coating tack free; adhesion strength epoxy **resin** coating; epoxy **resin** reaction hydroxydecanoic acid acrylic acid
- IT Photoresists  
(curable tack-free epoxy **resin** compns. for photoresists with good alkali developability)
- IT **Coating materials**  
(photocurable; radically curable epoxy **resins** and their compns. for tack-free coatings with good developability and adhesion strength)
- IT 29570-58-9, Dipentaerythritol hexaacrylate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking agents; radically curable epoxy **resins** and their compns. for tack-free coatings with good developability and adhesion strength)
- IT 79-10-7DP, Acrylic acid, reaction products with epoxy **resins**, alkanols, acrylic acid, and acid anhydrides 79-41-4DP, Methacrylic acid, reaction products with epoxy **resins**, alkanols, acrylic acid, and acid anhydrides 85-43-8DP, Tetrahydrophthalic anhydride, reaction products with epoxy **resins**, alkanols, acrylic acid, and acid anhydrides 108-30-5DP, Succinic anhydride, reaction products with epoxy **resins**, alkanols, acrylic acid, and acid anhydrides 4048-33-3DP, 6-Amino-1-hexanol, reaction products with epoxy **resins**, acrylic acid, and acid anhydrides 19721-22-3DP, 3-Mercapto-1-propanol, reaction products with epoxy **resins**, acrylic acid, and acid anhydrides 81775-74-8DP, EPPN 201, reaction products with alkanols, acrylic acids, and acid anhydrides 85305-70-0DP, EOCN 104S, reaction products with alkanols, acrylic acid, and acid anhydrides 446031-28-3P 446031-30-7P

446031-32-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (radically curable epoxy **resins** and their compns. for tack-free coatings with good developability and adhesion strength)

IT 446031-33-0P 446031-34-1P 446031-36-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (radically curable epoxy **resins** and their compns. for tack-free coatings with good developability and adhesion strength)

L130 ANSWER 11 OF 82 HCA COPYRIGHT 2005 ACS on STN

136:55338 Two-component coating compositions with improved adhesion for metallic substrates and their coating process. Plassmann, William (BASF Corporation, USA). PCT Int. Appl. WO 2001098393 A1 20011227, 23 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US15017 20010510. PRIORITY: US 2000-599283 20000622.

AB The compns. with improved adhesion to substrates, especially aluminum substrates, comprises a binder component containing  $\geq 1$  active hydrogen-containing compd [e.g., acrylic-based **clearcoat** (DC 88)], and a hardener component containing (A) an isocyanate functional compound [e.g., DH 45 (HDI-based **curing agent**)] and (B) a silane oligomer with  $\geq 2$  free **isocyanate groups** containing a reaction product of the isocyanate functional compound (A) and a coupling agent comprising (i)  $\geq 1$  alkoxysilane functional group and (ii)  $\geq 1$  **isocyanate reactive group** selected from **thiol**, secondary amine and/or primary amine [e.g., A 1170 (aminosilane)].

IC ICM C08G018-80

ICS C09D175-04

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 56

IT Acrylic **polymers**, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyurethane-; two-component coating compns. with improved adhesion for metallic substrates)

IT **Coating materials**

(two-component; two-component coating compns. with improved adhesion for metallic substrates)

L130 ANSWER 12 OF 82 HCA COPYRIGHT 2005 ACS on STN

136:38921 Sprayable coating composition. Klinkenberg, Huig; Van Beelen, Jan Cornelis (Akzo Nobel N.V., Neth.). PCT Int. Appl. WO 2001092363 A1 20011206, 21 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-EP5962 20010523. PRIORITY: EP 2000-201850 20000526.

AB The present invention relates to a sprayable coating composition comprising (a) at least one isocyanate reactive compound comprising at least one **thiol group**, (b) at least one polyisocyanate-functional compound, and (c) a **catalyst** comprising at least one organic metal compound where the metal is a metal

of Groups 3 to 13 of the Periodic Table. The invention also relates to use of the sprayable coating composition as a **clear coat**, its use as a **clear coat**, its use as a **clear coat** in a **multi-**

**layer lacquer coating**, and its use in the refinish industry and in finishing large transportation **vehicles**.

Thus, 1% K-KAT XC 5218 was added to a composition comprising pentaerythritol tetrakis(3-mercaptopropionate) 50, Tolonate HDT-LV 90, and Byk 306 leveling agent 7.0 parts showing gel time >1 day and drying time 1 h at room temperature and 18 min at 60°.

IC ICM C08G018-38

ICS C08G018-46; C08G018-22

CC 42-10 (**Coatings**, Inks, and Related Products)

ST sprayable coating compn thiol compd polyisocyanate; **clear** sprayable **coating** transition metal **catalyst**

IT Group IIIA element complexes

Group IIIA element compounds

Transition metal complexes

Transition metal compounds

RL: CAT (Catalyst use); USES (Uses)

(**catalysts**; sprayable coating compns. useful for **clear coating**, refinishing, and finishing large transportation **vehicles**)

IT Transparent materials

(coatings; sprayable coating compns. useful for **clear**



- coating, refinishing, and finishing large transportation vehicles)**
- IT Polyisocyanurates  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-polythiourethane-; sprayable coating compns. useful for **clear coating, refinishing, and finishing large transportation vehicles)**
- IT Polyesters, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyisocyanurate-polythiourethane-; sprayable coating compns. useful for **clear coating, refinishing, and finishing large transportation vehicles)**
- IT Crosslinking **catalysts**  
**Vehicles**  
 (sprayable coating compns. useful for **clear coating, refinishing, and finishing large transportation vehicles)**
- IT Polyurethanes, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (thio-, polyester-polyisocyanurate-; sprayable coating compns. useful for **clear coating, refinishing, and finishing large transportation vehicles)**
- IT **Coating materials**  
 (transparent; sprayable coating compns. useful for **clear coating, refinishing, and finishing large transportation vehicles)**
- IT 123-54-6D, 2,4-Pentanedione, aluminum complexes 555-31-7, Aluminum triisopropoxide 5593-70-4, Tyzor TBT 7429-90-5D, Aluminum, complexes with 2,4-pentanedione 7440-67-7D, Zirconium, complexes 13963-57-0 17501-44-9, Zirconium tetrakis(acetylacetonate) 213388-55-7, K-KAT XC 5218 251565-55-6, K-KAT XC 6212 289885-00-3, Tyzor NBZ  
 RL: CAT (Catalyst use); USES (Uses)  
 (**catalyst; sprayable coating compns. useful for clear coating, refinishing, and finishing large transportation vehicles)**
- IT 127115-41-7P, Hexamethylene diisocyanate isocyanurate-pentaerythritol tetrakis(3-mercaptopropionate) **copolymer** 361377-06-2P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (sprayable coating compns. useful for **clear coating, refinishing, and finishing large transportation vehicles)**

L130 ANSWER 13 OF 82 HCA COPYRIGHT 2005 ACS on STN

136:38883 Photoactivatable coating composition. Klinkenberg, Huig; Van Oorschot, Josephus Christiaan (Akzo Nobel N.V., Neth.). PCT Int. Appl. WO 2001092362 A1 20011206, 30 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-EP5847 20010521. PRIORITY: EP 2000-201850 20000526.

AB Photoactivatable coating composition comprising at least one photoinitiator and a base-catalyzed polymerisable or curable organic material comprising at least one polyisocyanate and at least one compound containing isocyanate reactive groups, wherein the isocyanate reactive groups comprise at least one **thiol group** and the photoinitiator is a photolabile base. Preference is given to a coating composition wherein the photolabile base is selected from the group of N-substituted 4-(ortho-nitrophenyl) dihydropyridine, a quaternary organo-boron photoinitiator, and an  $\alpha$ -amino acetophenone. The composition addnl. may comprise an organic acid, a metal complex and/or a metal salt as a cocatalyst and/or a sensitizer selected from the group of thioxanthenes, oxazines, rhodamines, and preferably from the group of benzophenone and derivs. thereof. Thus, a 50  $\mu$ -thick coating prepared from 56 parts **Desmodur** N 3390 and 27 parts trimethylolpropane tris(3-mercaptopropionate) and 0.4% N-methylpiperidine was cured after 2min exposure to UV light. The composition had a pot life of 4 days.

IC ICM C08G018-38

CC 42-3 (Coatings, Inks, and Related Products)

IT **Coating materials**

(photocurable; photoactivatable coating composition)

IT 361377-06-2P, Pentaerythritol tetrakis(3-mercaptopropionate)-Tolunate HDT-LV **copolymer** 379736-81-9P, **Desmodur** N 3390-trimethylolpropane tris(3-mercaptopropionate) **copolymer** 379736-84-2P 379736-85-3P 379736-86-4P 380223-30-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(photoactivatable coating composition)

L130 ANSWER 14 OF 82 HCA COPYRIGHT 2005 ACS on STN

135:258620 Compositions comprising an isocyanate-functional compound, and isocyanate-reactive compound, and a co-catalyst. Van Dijk, Joseph Theodorus Maria; Hulsbos, Edith (Akzo Nobel N.V., Neth.).

PCT Int. Appl. WO 2001068736 A1 20010920, 41 pp. DESIGNATED STATES:  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,  
LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE,  
SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM,  
AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI,  
CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE,  
NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2.  
APPLICATION: WO 2001-EP2328 20010301. PRIORITY: EP 2000-200883  
20000313.

- AB A coating composition for refinishing of large vehicles and cars  
comprises  $\geq 1$  isocyanate-functional compound comprising  
 $\geq 2$  **isocyanate groups**,  $\geq 1$   
**isocyanate-reactive** compound comprising  $\geq 2$   
**isocyanate-reactive groups** selected from  
**mercapto groups**, **hydroxyl groups**, and  
mixts. and a co-catalyst comprising a phosphine and a Michael  
acceptor. Thus, a fast curing coating composition was prepared from  
Tolonate HDT-LV 19.1, pentaerythritol tetrakis(3-mercaptopropionate)  
13.3, Bu acetate 9.7, triphenylphosphine 1.3, and trimethylolpropane  
triacrylate 1.19 g.
- IC ICM C08G018-38  
ICS C08G018-32; C08G018-75; C08K005-50; C09D175-04
- CC 42-10 (**Coatings**, Inks, and Related Products)
- IT Adhesives

**Coating materials**

(coating composition for refinishing of large vehicles comprising  
isocyanate-functional compound, isocyanate-reactive compound, and  
co-catalyst)

L130 ANSWER 15 OF 82 HCA COPYRIGHT 2005 ACS on STN

135:62707 Coating compositions containing oxidatively drying  
polyunsaturated condensation products, polythiols and siccatives.  
Bakkeren, Frank Johannes Alfred Dirk; Klaasen, Robert Paul (Akzo  
Nobel N.V., Neth.). PCT Int. Appl. WO 2001046294 A1 20010628, 26  
pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG,  
BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB,  
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL,  
PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,  
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF,  
BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT,  
LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN:  
PIXXD2. APPLICATION: WO 2000-EP11696 20001122. PRIORITY: EP  
1999-204467 19991222.

- AB The one-component coating composition with fast curability at low  
temperature

and long shelf life, comprises an oxidatively drying polyunsatd. condensation product having pendant groups with unsatd. CC bonds  $\geq 20\%$  [e.g., Setal 270 (alkyd **resin**)]; a polythiol having  $\geq 2$  **SH-groups** (e.g., **reaction** products with di(trimethylolpropane), 2,2-dimethylolpropionic acid, stearic acid and 3-mercaptopropionic acid); and a drier (such as Cur-RX), wherein The equivalence ratio of **thiol** functional **groups** to unsatd. CC bonds being less than 0,3, preferably between 0,01 and 0,25. The equivalence ratio of **SH-functional groups** to unsatd. groups is  $\leq 0.3$ .

- IC ICM C08G075-04  
ICS C09D181-00
- CC 42-8 (**Coatings**, Inks, and Related Products)
- ST alkyd **resin** coating autoxidn drying; thiol **curing agent** alkyd coating curability; vanadium drier alkyd **resin** coating
- IT Alkyd **resins**  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(Setal 270; one-component coating compns. containing oxidatively drying alkyds, polythiols and siccatives)
- IT **Coating materials**  
(one-component; one-component coating compns. containing oxidatively drying alkyds, polythiols and siccatives)
- IT Thiols (organic), uses  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(polythiols, **curing agents**; one-component coating compns. containing oxidatively drying alkyds, polythiols and siccatives)
- IT Crosslinking **catalysts**  
(polythiols; one-component coating compns. containing oxidatively drying alkyds, polythiols and siccatives)
- IT Fatty acids, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(sunflower-oil, alkyd **resins**; one-component coating compns. containing oxidatively drying alkyds, polythiols and siccatives)
- IT **Coating materials**  
(water-thinned; one-component coating compns. containing oxidatively drying alkyds, polythiols and siccatives)
- IT 57-11-4DP, Stearic acid, esters with polyester 107-96-0DP,

3-Mercaptopropionic acid, esters with polyester 26896-18-4DP,  
Isononanoic acid, esters with polyester 150504-00-0DP,  
2,2-Dimethylolpropionic acid-ditrimethylolpropane **copolymer**  
, esters with stearic acid and mercaptopropionic acid  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use);  
PREP (Preparation); USES (Uses)

(**curing agent**; one-component coating compns.

containing oxidatively drying alkyds, polythiols and siccatives)

IT 7575-23-7, Pentaerythritol tetrakis(3-mercaptopropionate)

RL: MOA (Modifier or additive use); USES (Uses)

(**curing agent**; one-component coating compns.

containing oxidatively drying alkyds, polythiols and siccatives)

L130 ANSWER 16 OF 82 HCA COPYRIGHT 2005 ACS on STN

134:223199 Graft polymer, process for the production thereof and  
solution-type water- and oil-repellent compositions containing the  
polymer. Yamaguchi, Fumihiko; Hanazawa, Makoto; Hayashi, Kazunori  
(Daikin Industries, Ltd., Japan). PCT Int. Appl. WO 2001019884 A1  
20010322, 28 pp. DESIGNATED STATES: W: CA, JP, KR, US; RW: AT, BE,  
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE.  
(Japanese). CODEN: PIXXD2. APPLICATION: WO 2000-JP6047 20000906.  
PRIORITY: JP 1999-260186 19990914.

AB A graft polymer composed of a backbone polymer and a  
fluoroalkyl-bearing branch polymer grafted onto the backbone polymer  
through a C(=O)NH containing linkage can give solution-, water- and  
oil-repellent compns. exhibiting high water- and oil-repellencies,  
high product stability and high dilution stability. Thus, a graft  
copolymer was prepared by the reaction of CF<sub>3</sub>CF<sub>2</sub>(C<sub>2</sub>F<sub>4</sub>)<sub>n</sub>C<sub>2</sub>H<sub>4</sub>OCOCH:CH<sub>2</sub>  
and stearyl methacrylate in Et acetate **containing**  
**mercaptoethanol** and AIBN, adding 2-isocyanatoethyl  
methacrylate and dibutyltin laurate, and graft polymerization with  
2-ethylhexyl methacrylate and maleic anhydride in EtOH containing  
Perbutyl PV.

IC ICM C08F290-06

ICS C09K003-18; C08G081-02; C08F008-30

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 40, 42

ST water oil repellent graft copolymer compn; acrylate macromonomer  
polyester coating coating; polyester cotton textile finishing  
coating; fluoropolymer acrylate **polyurethane** soln compn;  
coating material **polyurethane polyacrylate**

IT **Polyurethanes**, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical  
or engineered material use); PREP (Preparation); USES (Uses)

(acrylates, fluorine-containing; graft polymer, process for the  
production thereof and solution-type water- and oil-repellent

compns.

containing the polymer)

IT **Coating materials**

(oil-resistant; graft polymer, process for the production thereof and

solution-type water- and oil-repellent compns. containing the polymer)

IT Fluoropolymers, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**polyurethane-**, acrylates; graft polymer, process for the production thereof and solution-type water- and oil-repellent compns. containing the polymer)

IT **Coating materials**

(water-resistant; graft polymer, process for the production thereof and solution-type water- and oil-repellent compns. containing the polymer)

L130 ANSWER 17 OF 82 HCA COPYRIGHT 2005 ACS on STN

135:274315 Inorganic coatings for exterior articles with good interlayer adhesion and weather resistance. Hirano, Kazushi; Fukiage, Masahiro; Seto, Kazuo (Matsushita Electric Works, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001271030 A2 20011002, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-87007 20000327.

AB The articles have primer layers containing (a) compds. having  $\geq 2$  epoxy groups, (b) organic Si compds. having  $\geq 1$  **mercapto group** and  $\geq 2$  alkoxy groups, (c) organic Si compds. having  $\geq 1$  amino group and  $\geq 2$  alkoxy groups, and (d) organic solvents and outermost inorg. coating layers containing Si alkoxide-**based coatings** and ZnO fine particles as UV absorbers. Thus, an ABS (Cevian V) plate was coated with a primer composition containing epoxidized C6-8 unsatd. hydrocarbon,  $\gamma$ -mercaptopropyltrimethoxysilane,  $\gamma$ -aminopropyltrimethoxysilane, and toluene, dried, coated with an inorg. coating composition containing dimethyldimethoxysilane, methyltrimethoxysilane, tetraethoxysilane, SiO<sub>2</sub>, and ZnO, and dried to give a coated article showing good appearance and improved adhesion after 20 h in water at 40°.

IC ICM C09D183-04

ICS C09D163-00; C09D183-02; C09D183-06; C09D183-08

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 38

IT Epoxides

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(C6-8 unsatd. hydrocarbon, **polymer** with mercapto-containing alkoxysilanes and amino-containing alkoxysilanes, primer layer; inorg. coatings for exterior articles with good interlayer adhesion and weather resistance)

IT Epoxy **resins**, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(siloxane-silsesquioxane-, primer layer; inorg. coatings for exterior articles with good interlayer adhesion and weather resistance)

IT Epoxy **resins**, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silsesquioxane-, primer layer; inorg. coatings for exterior articles with good interlayer adhesion and weather resistance)

IT **Coating materials**

(weather-resistant; inorg. coatings for exterior articles with good interlayer adhesion and weather resistance)

IT 156940-48-6P, Dimethyldimethoxysilane-methyltrimethoxysilane-tetraethoxysilane **copolymer** 209261-07-4P, Dimethyldichlorosilane-Dimethyldimethoxysilane-methyltrichlorosilane-methyltrimethoxysilane-phenyltrichlorosilane **copolymer**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(inorg. coating layer; inorg. coatings for exterior articles with good interlayer adhesion and weather resistance)

IT 149000-95-3P, Dimethyldimethoxysilane-methyltrimethoxysilane **copolymer** 155694-25-0P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(inorg. coating layer; inorg. coatings for exterior articles with good interlayer adhesion and weather resistance)

IT 1185-55-3DP, Methyltrimethoxysilane, **polymer** with epoxides, mercapto-containing alkoxysilanes, and amino-containing alkoxysilanes 3069-29-2DP, N-( $\beta$ -Aminoethyl)- $\gamma$ -

aminopropylmethyldimethoxysilane, **polymer** with epoxides and mercapto-containing alkoxysilanes 4420-74-0DP,

$\gamma$ -Mercaptopropyltrimethoxysilane, **polymer** with epoxides and amino-containing alkoxysilanes 13822-56-5DP,

**polymer** with epoxides, mercaptopropyltrimethoxysilane 14814-09-6DP,  $\gamma$ -Mercaptopropyltriethoxysilane, **polymer**

with epoxides and amino-containing alkoxysilanes 363625-26-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(primer layer; inorg. coatings for exterior articles with good interlayer adhesion and weather resistance)

L130 ANSWER 18 OF 82 HCA COPYRIGHT 2005 ACS on STN

135:228308 Golf balls having polyurethane coatings with good adhesion to balls. Yokota, Masatoshi; Maruoka, Kiyohito (Sumitomo Rubber Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001252375

A2 20010918, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-65481 20000309.

AB The balls have polyurethane coatings containing (RO)<sub>a</sub>SiX<sub>b</sub> (a, b = 1-3; a

+ b = 4; R = C1-3 saturated alkyl; X = amino, vinyl-, epoxy-, methacryloyloxy-, chloropropyl-, or **mercapto**-containing organic **group**) as coupling agents. Thus, a ball comprising BR 01 (high-cis butadiene rubber), methacrylic acid, ZnO, TiO<sub>2</sub>, and dicumyl peroxide was **coated** with a **clear** composition comprising polyether polyol, HDI, and 1.0 phr N-(β-aminoethyl)-γ-aminopropyltrimethoxysilane to give a golf ball showing good interlayer adhesion under dry and wet condition.

IC ICM A63B037-14

ICS A63B037-00; C09D175-04

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 39

IT **Coating materials**

(transparent; golf balls having polyurethane coatings with good adhesion to balls)

IT 822-06-0D, HDI, **polymers** with polyether polyol

RL: DEV (Device component use); POF (Polymer in formulation); USES (Uses)

(golf balls having polyurethane coatings with good adhesion to balls)

L130 ANSWER 19 OF 82 HCA COPYRIGHT 2005 ACS on STN

134:194644 Radiation-curable coatings having Michael addition products of mercaptoalkyltrialkoxysilanes and acrylic compounds. Maruyama, Tsutomu (Kansai Paint Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001055443 A2 20010227, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-232625 19990819.

AB The coatings, showing excellent adhesion to supports and curability in the presence of O, comprise (a) reaction products of (a1) ≥2-(meth)acryloyl group-containing unsatd. compds. of average mol. weight 150-2,000 and (a2) HS(CH<sub>2</sub>)<sub>1-8</sub>Si(OR)<sub>3</sub> (R = Me, Et, Pr) 5-100,

(b) cationic monomers 0-95 (a + b = 100), (c) cationic initiators 0.05-20, and (d) radical initiators 0-20 parts. The a1 and a2 are **reacted** at (SH)/(unsatd. **group**) (mol

ratio) 0.5-1.2. Thus, 212 parts neopentyl glycol diacrylate was reacted with 392 parts HS(CH<sub>2</sub>)<sub>3</sub>Si(OMe)<sub>3</sub> at 60° to give an S-containing acrylic compound, 100 parts of which was mixed with 5

parts

CI 2758 (cationic initiator), applied on a glass, and irradiated with UV to give a coating layer with pencil hardness 4H and gel fraction 98%.

IC ICM C08G075-00

ICS C08G059-68; C08G063-06; C08G065-02; C09D004-02; C09D005-00;



C09D183-08

- CC 42-7 (**Coatings**, Inks, and Related Products)
- ST photocurable coating thiol reacted acrylate curability;  
**mercaptopropylmethoxysilane** acrylic compd **adduct**  
photocurable coating; adhesion support radiation curable acrylic  
coating
- IT **Coating materials**  
(UV-curable; curability-improved photocurable coatings comprising  
**mercaptoalkylalkoxysilane-adducted** acrylic  
comps.)
- IT Epoxy **resins**, uses  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical  
or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic; curability-improved photocurable coatings comprising  
**mercaptoalkylalkoxysilane-adducted** acrylic  
comps.)
- IT Polymerization **catalysts**  
(photopolymn.; curability-improved photocurable coatings  
comprising **mercaptoalkylalkoxysilane-adducted**  
acrylic comps.)
- IT Polymerization **catalysts**  
(radical; curability-improved photocurable coatings comprising  
**mercaptoalkylalkoxysilane-adducted** acrylic  
comps.)
- IT Glass, miscellaneous  
RL: MSC (Miscellaneous)  
(support; curability-improved photocurable coatings comprising  
**mercaptoalkylalkoxysilane-adducted** acrylic  
comps.)
- IT Polycarbonates, miscellaneous  
Polyesters, miscellaneous  
RL: MSC (Miscellaneous)  
(supports; curability-improved photocurable coatings comprising  
**mercaptoalkylalkoxysilane-adducted** acrylic  
comps.)
- IT 947-19-3, Irgacure 184 26708-04-3, 2-Ethyl-9,10-  
dimethoxyanthracene 75482-18-7, DAICAT 11 264227-41-0, CI 2758  
RL: CAT (Catalyst use); USES (Uses)  
(curability-improved photocurable coatings comprising  
**mercaptoalkylalkoxysilane-adducted** acrylic  
comps.)
- IT 2223-82-7DP, Neopentyl glycol diacrylate, Michael addition products  
with mercaptopropyltrimethoxysilane, **polymers**  
2530-83-8DP,  $\gamma$ -Glycidoxypropyltrimethoxysilane, reaction  
products with S-containing acrylic comps. and epoxy-containing  
acrylic  
**polymers** 4369-14-6DP, KBM 5103, reaction products with  
S-containing acrylic comps. and acrylate monomers 4420-74-0DP,

$\gamma$ -Mercaptopropyltrimethoxysilane, Michael addition products with acrylic compds., **polymers** 4986-89-4DP, Pentaerythritol tetraacrylate, Michael addition products with mercaptopropyltrimethoxysilane, **polymers** 15625-89-5DP, Trimethylolpropane triacrylate, Michael addition products with mercaptopropyltrimethoxysilane, **polymers** 25085-98-7DP, Celloxide 2021P, **polymers** with S-containing acrylic compds. 29570-58-9DP, Dipentaerythritol hexaacrylate, Michael addition

products

with mercaptopropyltrimethoxysilane, **polymers** 64401-02-1DP, Viscoat 700, Michael addition products with mercaptopropyltrimethoxysilane, **polymers** 100289-84-7DP, Aronix M 310, reaction products with S-containing acrylic compds. and acryloxy-containing organosilanes 112462-24-5DP, Blemmer CP 30, **polymers** with S-containing acrylic compds.

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (curability-improved photocurable coatings comprising **mercptoalkylalkoxysilane-adducted** acrylic compds.)

IT 7429-90-5, Aluminum, miscellaneous

RL: MSC (Miscellaneous)

(support; curability-improved photocurable coatings comprising **mercptoalkylalkoxysilane-adducted** acrylic compds.)

IT 25038-59-9, Poly(ethylene terephthalate), miscellaneous

RL: MSC (Miscellaneous)

(supports; curability-improved photocurable coatings comprising **mercptoalkylalkoxysilane-adducted** acrylic compds.)

L130 ANSWER 20 OF 82 HCA COPYRIGHT 2005 ACS on STN

134:163833 Reactive silyl group-containing acrylic **polymers** and their curable compositions for coatings, adhesives, sealing compositions, films, and coupling agents. Okamoto, Shuji; Ueno, Hiroshi (Soken Kagaku K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2001040037 A2 20010213, 29 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-216509 19990730.

AB Title reactive (co)**polymers** are manufactured by **polymn** . of acrylic monomers in the presence of (substituted) dicyclopentadienylmetal dihalides (the metal is chosen from Group 4A, 4B, 5A, Cr, and Ru) and **reactive silyl group** -containing **thiols**. Thus, 100 parts Me methacrylate was **polymerized** with 20 parts  $\gamma$ -methacryloxypropyltrimethoxysilane in the presence of 0.1 part ruthenocene dichloride and 20 parts 3-mercaptopropyltrimethoxysilane at 80° for 8 h 5 min to give acrylic **copolymer** with Mw 1400 and Mn 900. The **copolymer** 100, TiO<sub>2</sub> 80, and Ti(Obu)<sub>4</sub> 1.0 part were mixed,

applied on an Fe plate, and baked to form a flexible glossy coating layer.

- IC ICM C08F020-00
- ICS C08F004-16; C08F004-629; C08K005-057; C08K005-17; C08K005-541; C08K005-56; C08L033-00; C09D133-00; C09J133-00; C09K003-10
- CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 42
- ST coating adhesive sealing methacrylate methacryloxypropyltrimethoxysilane **copolymer**; coupling agent film silylated **polymethacrylate**; mercaptopropyltrimethoxysilane modified **polymethacrylate** manuf metallocene **catalyst**
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic; manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)
- IT **Coating materials**  
(heat-resistant; manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)
- IT Coupling agents  
Plastic films  
Sealing compositions  
(manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)
- IT Polymerization **catalysts**  
(metallocene; manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)
- IT Adhesives  
(pressure-sensitive; manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)
- IT Thiols (organic), reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactive silyl group-containing; manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)
- IT 1271-19-8, Titanocene dichloride 1271-24-5, Chromocene 1287-13-4, Ruthenocene 1291-32-3, Zirconocene dichloride 52705-47-2, Chromocene dichloride  
RL: CAT (Catalyst use); USES (Uses)  
(**catalyst**; manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing

- compns., films, and coupling agents)
- IT 4420-74-0DP, 3-Mercaptopropyltrimethoxysilane, reaction product with acrylic **polymers** 26936-30-1DP,  $\gamma$ -Methacryloxypropyltrimethoxysilane-methyl methacrylate **copolymer**, reaction product with 3-mercaptopropyltrimethoxysilane 31986-96-6DP, Ethyl acrylate- $\gamma$ -Methacryloxypropyltrimethoxysilane **copolymer**, reaction product with 3-mercaptopropyltrimethoxysilane 84154-41-6DP, Butyl acrylate- $\gamma$ -Methacryloxypropyltrimethoxysilane-methyl methacrylate-styrene **copolymer**, reaction product with 3-mercaptopropyltrimethoxysilane 98755-44-3DP, reaction product with 3-mercaptopropyltrimethoxysilane 100308-61-0DP, reaction product with 3-mercaptopropyltrimethoxysilane
- RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
- (manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)
- IT 325463-23-8DP, reaction product with 3-mercaptopropyltrimethoxysilane
- RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
- (manufacture of reactive silyl group-containing acrylic **polymers** for coatings, adhesives, sealing compns., films, and coupling agents)

L130 ANSWER 21 OF 82 HCA COPYRIGHT 2005 ACS on STN

134:209420 Acrylic **polymer**-modified sol gel compositions for single- or **multilayer** lacquer finishes. Armbrust, Manuela; Bremser, Wolfgang; Hintze-Bruening, Horst; Stuebbe, Wilfried; Betz, Peter; Ehlig, Christel (BASF Coatings A.-G., Germany). Ger. Offen. DE 19940858 A1 20010301, 20 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1999-19940858 19990827.

AB Sol gel compns. for abrasion-resistant **clearcoats** with improved adhesion to **basecoats** contain (A) a solution containing a **polymer** prepared by **polymerization** of  $\geq 1$  acid group-free (meth)acrylate ester,  $\geq 1$  acid-free, OH-containing ethylenically unsatd. monomer, and an ethylenically unsatd. monomer containing  $\geq 1$  acid group, (B) a primary lacquer prepared by hydrolysis and condensation of  $\text{SiR}_4$  [R = hydrolyzable group, OH, and a nonhydrolyzable group ( $\geq 1$  is a hydrolyzable group)], (C) a sol prepared by hydrolysis, condensation, and complexation of  $\geq 1$   $\text{MR}_n$  (M = Al, Ti, or Zr, R = same as in  $\text{SiR}_4$ , n = 3 or 4),  $\geq 1$   $\text{S(R}_1\text{X)}_2$  ( $\text{R}_1$  = divalent organic **group**, X = OH, SH,  $\text{NHR}_2$ ,  $\text{R}_2$  = H or C1-6 alkyl, or  $\text{C}\leq 6$  cycloalkyl), and  $\geq 1$   $\text{SiR}_4$  [R = hydrolyzable group, OH, and a

nonhydrolyzable group ( $\geq 1$  is a hydrolyzable group)]. A typical (A) **polymer** was manufactured by radical **polymn** of Bu methacrylate 9.598, Me methacrylate 7.708, styrene 8, Methacryl Ester 13 (methacrylate ester of a long-chain alc.) 4.253, hydroxyethyl acrylate 12.906, and acrylic acid 1.831 parts. A typical (C) was manufacture by heating a mixture containing Al tri-sec-butoxide 49.8, MeSi(OEt)<sub>3</sub> 106.8, and EtOAc 19.6 parts 30 min at 40°, cooling to 25°, adding 44 parts glycidyloxypropyltrimethoxysilane, cooling to 0°, adding 54 parts 0.1 N HCl in 2.5 h, stirring at room temperature until homogeneous, heating to 75°, adding 12.4 parts thiodiethanol, heating 20 min at 75°, adding 6 parts HOAc, and aging 24 h at room temperature

IC ICM C09D183-08  
ICS C09D133-04; B05D007-16

CC 42-10 (Coatings, Inks, and Related Products)

ST acrylic **polymer** modified sol gel abrasion resistant coating; glycidyloxypropyltrimethoxysilane **copolymer** sol gel coating acrylic **polymer** modified; aluminoxane silsesquioxane coating acrylic **polymer** modified; hydroxyethyl acrylate **copolymer** modified sol gel coating; butyl methacrylate **copolymer** modified sol gel coating

IT **Coating materials**  
(abrasion-resistant; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)

IT **Coating materials**  
(acid-resistant; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)

IT **Automobiles**  
(acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes for automobiles)

IT Containers  
(acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes for containers)

IT Furniture  
(acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes for furniture)

IT Plastics, miscellaneous  
RL: MSC (Miscellaneous)  
(acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes for plastics)

IT **Coating materials**

- (alkali-resistant; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT Silsesquioxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(aluminoxane-, sulfide group-containing; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT **Coating materials**  
(chemical resistant; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT **Coating materials**  
(chip-resistant; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT Sol-gel processing  
(coating; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT **Coating materials**  
(coil; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT Aluminoxanes  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(silsesquioxane-, sulfide group-containing; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT **Coating process**  
(sol-gel; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT **Coating materials**  
(water-resistant; acrylic **polymer**-modified sol gel compns. for single- or **multilayer** abrasion-resistant lacquer finishes)
- IT 152791-94-1P, 3-Glycidyloxypropyltrimethoxysilane-methyltriethoxysilane **copolymer** 194946-88-8P 328405-06-7P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic **polymer**-modified sol gel compns. for single-

or **multilayer** abrasion-resistant lacquer finishes)

L130 ANSWER 22 OF 82 HCA COPYRIGHT 2005 ACS on STN

133:336637 Ambient-curable composition comprising mercapto-functional compounds for coatings and adhesives. Van Dijk, Joseph Theodorus Maria (Akzo Nobel N.V., Neth.). PCT Int. Appl. WO 2000064959 A1 20001102, 33 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 2000-EP3746 20000419. PRIORITY: EP 1999-201294 19990426.

AB A composition comprises a compound comprising  $\geq 2$  olefinically unsatd. groups comprising at least an electron-withdrawing functionality linked to a C atom of the unsatd. bond, a compound comprising  $\geq 2$  **mercapto-functional groups**, and a cure catalyst comprising  $\geq 1$ , optionally blocked, NH-group. Thus, a 1:1 mixture of pentaerythritol tetrakis(3-mercaptopropionate) and trimethylolpropane triacrylate was formulated with 0.5 equivalent% isophorone diamine, and applied to a glass slide at 21°, showing <1 min cure time.

IC ICM C08G018-67

ICS C08G063-91

CC 42-10 (**Coatings, Inks, and Related Products**)

IT **Coating materials**

(room-temperature-curable; composition comprising mercapto-functional compds. for ambient-curable coatings)

IT 304017-30-9P, 2-Butyl-2-ethylpropanediol-diethyl maleate-1,5-pentanediol **copolymer** 304017-31-0P 304695-30-5P

RL: IMF (Industrial manufacture); PREP (Preparation) (composition comprising mercapto-functional compds. for ambient-curable coatings)

IT **33007-83-9DP**, Trimethylolpropane tris(3-mercaptopropionate), reaction products with polyurethane acrylate 36118-03-3P, Pentaerythritol tetrakis(3-mercaptopropionate)-trimethylolpropane triacrylate **copolymer** 304017-30-9DP, 2-Butyl-2-ethylpropanediol-diethyl maleate-1,5-pentanediol **copolymer**, reaction products with mercapto-functional polyester 304017-34-3P 304017-35-4P 304017-36-5P 304017-37-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(composition comprising **mercapto**-functional compds. for  
ambient-curable coatings)

L130 ANSWER 23 OF 82 HCA COPYRIGHT 2005 ACS on STN

132:335918 Coating composition. Chisholm, Michael Stephen (Ineos  
Acrylics UK Ltd., UK). PCT Int. Appl. WO 2000029495 A1 20000525, 15  
pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR,  
BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,  
LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,  
SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY,  
DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT,  
SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO  
1999-GB3805 19991115. PRIORITY: GB 1998-24932 19981116.

AB The composition comprises a solvent, an alkyd **resin**, and a  
vinyllic star **polymer** comprising the residue of a  
polyfunctional thiol compound having  $\geq 3$  functional  
**thiol groups** and  $\geq 3$  vinyllic chains each  
comprising the residue of  $\geq 1$  monofunctional vinyllically  
unsatd. monomer. The vinyllic star **polymer** is soluble in the  
alkyd **resin** solution and produces solns. of relatively low  
viscosity compared to linear acrylic **polymers**. Thus,  
emulsion **polymerization** of iso-Bu methacrylate in the presence of  
dodecyl mercaptan, trimethylolpropane tris(3-mercaptopropionate),  
pentaerythritol tetra(3-mercaptopropionate) and AIBN gave a  
**polymer** with good solubility in white spirit.

IC ICM C09D167-08

CC 42-10 (Coatings, Inks, and Related Products)

ST star **polymer** isobutyl methacrylate emulsion **polymn**  
; alkyd **resin** polyisobutyl methacrylate coating compn

IT Chain transfer agents  
(alkyd coating composition containing star **polymers** with good  
solubility)

IT Linseed oil

Linseed oil

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical  
or engineered material use); USES (Uses)

(linseed oil-based alkyd **resins**, Wresinol AL 668; alkyd  
coating composition containing star **polymers** with good solubility)

IT Alkyd **resins**

Alkyd **resins**

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical  
or engineered material use); USES (Uses)

(linseed oil-based, Wresinol AL 668; alkyd coating composition  
containing

star **polymers** with good solubility)

IT Thiols (organic), uses



RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(**polymers**, star **polymers**; alkyd coating composition containing star **polymers** with good solubility)

IT **Coating materials**

(solvent-based; alkyd coating composition containing star **polymers** with good solubility)

IT **Alkyd resins**

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(soybean oil-based, Wresinol AS 483, Wresinol AS 621, K 674-50X; alkyd coating composition containing star **polymers** with good solubility)

IT **Polymers, uses**

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(star-branched; alkyd coating composition containing star **polymers** with good solubility)

IT 9011-15-8, Poly(isobutyl methacrylate)

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(alkyd coating composition containing star **polymers** with good solubility)

IT 268206-20-8

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(star **polymers**; alkyd coating composition containing star **polymers** with good solubility)

L130 ANSWER 24 OF 82 HCA COPYRIGHT 2005 ACS on STN

132:280592 Ambient temperature-curable epoxy coating compositions.

Fletcher, Ian David; Lines, Robert; Cameron, Colin; Guy, Alan; Morton, Heather; Niedoba, Stefan Norbert Rudiger; Marrion, Alastair Robert (International Coatings Limited, UK). PCT Int. Appl. WO 2000022025 A1 20000420, 22 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-EP7770 19991012. PRIORITY: GB 1998-22342 19981013.

AB An ambient temperature curable coating composition comprises a film-forming

epoxy **resin**, a curing agent for the epoxy **resin** that contains an average of at least two **thiol groups**

per mol., and a catalyst for the curing reaction, wherein the composition contains a fugitive retarder for the curing reaction which inhibits curing of the composition in the bulk but which leaves the curable composition when the composition is applied as a coating on a substrate. The coating compns., in particular are useful as anticorrosive primer coatings for steel in shipbuilding or structural steel used in buildings, bridges or oil rigs.

IC ICM C08G059-66  
ICS C09D163-00; C09D007-00

CC 42-9 (Coatings, Inks, and Related Products)

IT Epoxy **resins**, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(ambient temperature-curable epoxy coating compns.)

IT **Coating materials**  
(anticorrosive; ambient temperature-curable epoxy coating compns.)

IT Phenolic **resins**, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(epoxy, novolak; ambient temperature-curable epoxy coating compns.)

IT Epoxy **resins**, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(phenolic, novolak; ambient temperature-curable epoxy coating compns.)

IT 60-24-2D, Mercaptoethanol, reaction products with polyisocyanates 7575-23-7 28679-10-9 104559-01-5D, **Desmodur** N 3300, reaction products with mercaptoethanol  
RL: MOA (Modifier or additive use); USES (Uses)  
(ambient temperature-curable epoxy coating compns.)

L130 ANSWER 25 OF 82 HCA COPYRIGHT 2005 ACS on STN

133:44964 Aqueous **polymer** emulsions and water-thinned **coatings based** on them. Morishima, Takeshi; Murakami, Shunsuke; Sasahara, Toshiaki; Sugimoto, Kazuya (Nippon Polyurethane Industry Co., Ltd., Japan; Asia Industry Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 2000178338 A2 20000627, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-375649 19981216.

AB The emulsions, forming flexible, tough, and transparent films, contain self-emulsifiable acrylic urethane **copolymers** having hydrophilic polar groups and alkoxysilyl groups, where the **copolymers** are prepared by reaction of double bonds of ethylenically unsatd. monomers with **mercapto groups** of polyurethanes as chain-transfer agents. Thus, 2-mercapto-1-hydroxyethane 10.1, 2-hydroxyethyl methacrylate 9.1,

dimethylolbutanoic acid 14.9, and ethylene glycol-initiated polycaprolactone diol 400.0 parts were dissolved in MEK, treated with 67.3 parts HDI in presence of dibutyltin dilaurate, and diluted with MEK and Me<sub>2</sub>CHOH to give a 50.0% urethane prepolymer solution,

60.0

parts of which was treated with acrylic acid 1.0, diacetoneacrylamide 3.0, Me methacrylate 48.0, Bu acrylate 16.0, and  $\gamma$ -methacryloxypropyltrimethoxysilane 2.0 parts, neutralized with Et<sub>3</sub>N, crosslinked with 1.5 parts adipic acid dihydrazide, and emulsified in H<sub>2</sub>O to give an aqueous emulsion.

IC ICM C08G018-62

ICS C08G018-38; C09D005-00; C09D175-04

CC 42-7 (Coatings, Inks, and Related Products)

IT Coating materials

(emulsion, water-thinned; self-emulsifiable acrylic polyurethanes for water-thinned coatings with good flexibility, toughness, and transparency)

IT Coating materials

(transparent; self-emulsifiable acrylic polyurethanes for water-thinned coatings with good flexibility, toughness, and transparency)

IT 60-24-2DP, 2-Mercaptoethanol, reaction products with polyurethanes, **polymers** 80-62-6DP, Methyl methacrylate, **polymers** with mercapto-containing polyurethanes 96-26-4DP, reaction products with alcs. and polyisocyanates, **polymers** 101-43-9DP, Cyclohexyl methacrylate, **polymers** with mercapto-containing polyurethane methacrylates 629-11-8DP, 1,6-Hexanediol, reaction products with dimer acids, alcs., and polyisocyanates, **polymers** 868-77-9DP, 2-Hydroxyethyl methacrylate, reaction products with polyurethanes, **polymers** 1071-93-8DP, Adipic acid dihydrazide, **polymers** with acrylic polyurethanes 2530-85-0DP,  $\gamma$ -Methacryloxypropyltrimethoxysilane, **polymers** with mercapto-containing polyurethanes 2873-97-4DP, Diacetoneacrylamide, **polymers** with mercapto-containing polyurethanes 5124-30-1DP, Hydrogenated MDI, reaction products with alcs., **polymers** 56743-27-2DP, Dimethylolbutanoic acid, reaction products with alcs. and polyisocyanates, **polymers** 275816-25-6P 275816-27-8P 275816-29-0P 275816-31-4P 275816-33-6P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (self-emulsifiable acrylic polyurethanes for water-thinned coatings with good flexibility, toughness, and transparency)

L130 ANSWER 26 OF 82 HCA COPYRIGHT 2005 ACS on STN

132:238439 Acrylic **polymer-based coating**

compositions curable at relatively low temperature. Yanai, Hidenori; Osanai, Yoshitaka; Kageishi, Kazuji (Toray Industries,

Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2000086968 A2 20000328, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-258076 19980911.

- AB The title compns., capable of curing at  $<80^{\circ}$ , comprise (a) acrylic **polymers** with epoxy and hydroxy groups (e.g., Bu acrylate-Bu methacrylate-glycidyl methacrylate-2-hydroxyethyl methacrylate-Me methacrylate **copolymer**) 100, (b) alkoxy silanes containing glycidyl and hydrolyzable alkoxy **groups** (e.g., SH-6040) 0.05-100, (c) Al chelating compds. (e.g., Aluminum Chelate AW) 0.01-10, (d) water 0.01-10, and optionally (e) epoxy **resins** with epoxy equiv 100-2000 (e.g., Araldite CY 179, Araldite DY 022, ERL-4299) 5-50, and/or (f) organic compds. capable of forming coordination compds. with the Al chelating compds. (e.g., acetylacetone) 0.1-20 parts.
- IC ICM C09D133-14  
ICS C09D151-00; C09D163-00; C08F290-02
- CC 42-7 (**Coatings**, Inks, and Related Products)
- ST acrylic **polymer** low temp curable coating compn; alkoxy silane acrylic **polymer** coating compn; aluminum chelating compd acrylic **polymer** coating; epoxy **resin** acrylic **polymer** coating
- IT Chelating agents  
(acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT Epoxy **resins**, uses  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT Silanes  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(alkoxy; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT **Coating materials**  
(room-temperature-curable; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT **Coating materials**  
(solvent-resistant; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT **Coating materials**  
(weather-resistant; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT 19022-77-6, Aluminum Chelate AW  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(Aluminum Chelate AW, chelating compound; acrylic **polymer -based coating** compns. curable at relatively

- low temperature)
- IT 25085-98-7, Araldite CY 179  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (Araldite CY 179; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT 29611-97-0, Araldite DY 022  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (Araldite DY 022; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT 29797-71-5, ERL-4299  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (ERL-4299; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT 2530-83-8  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (SH-6040; acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT 123-54-6, Acetylacetone, uses  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (acrylic **polymer-based coating** compns. curable at relatively low temperature)
- IT 68841-80-5 261714-46-9, Butyl acrylate-butyl methacrylate-glycidyl methacrylate-2-hydroxyethyl acrylate-Macromonomer AA 6-methyl methacrylate graft **copolymer** 261714-47-0, Butyl acrylate-butyl methacrylate-glycidyl methacrylate-2-hydroxyethyl methacrylate-Macromonomer AA 6-methyl methacrylate graft **copolymer**  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (acrylic **polymer-based coating** compns. curable at relatively low temperature)

L130 ANSWER 27 OF 82 HCA COPYRIGHT 2005 ACS on STN

132:13156 Anticorrosive coating compositions for use on metal and precoated steel surface and method for using them. Hosono, Tetsuo; Nakazato, Michiaki; Inoue, Tadayoshi (Nippon Dacro Shamrock Co., Ltd., Japan). PCT Int. Appl. WO 9960185 A1 19991125, 62 pp. DESIGNATED STATES: W: CN, JP, KR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1999-JP2511 19990514. PRIORITY: JP 1998-133824 19980515.

AB The compns. which do not contain hexavalent chromium compound-type pollutants, comprise the polyesters bearing  $\geq 1$  **SH groups**, optionally curing agents, curing catalysts or/and

silica (as anti-dripping aid), and can be cured by heating. Thus, heating 1 mol ethylene glycol with 2 mol 3-mercaptopropionic acid to 180° over 2 h and at 180-190° for 2 h and terminating at 210-220° while removing water byproduct gave a diester 100 parts of which was combined with 200 MIBK to give a coating.

IC ICM C23C022-00

ICS C23C022-53

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 55, 56

IT **Coating materials**

(anticorrosive; anticorrosive coating compns. for use on metal and precoated steel surface and method for using steel plate)

IT Polyesters, uses

RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(**mercapto group**-containing; anticorrosive coating compns. for use on metal and precoated steel surface and method for using steel plate)

IT Esters, uses

RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(poly-, **mercapto group**-containing; anticorrosive coating compns. for use on metal and precoated steel surface and method for using steel plate)

IT Aluminum alloy, **base**

RL: MSC (Miscellaneous)

(substrate; anticorrosive **coating** compns. for use on metal and precoated steel surface and method for using steel plate)

IT 96-27-5P 638-16-4P, 1,3,5-Triazine-2,4,6(1H,3H,5H)-trithione  
7539-04-0P, Pentaerythritol tri(3-mercaptopropionate) 7539-05-1P,  
Pentaerythritol di(3-mercaptopropionate) 7575-23-7P,  
Pentaerythritol tetra(3-mercaptopropionate) 10193-99-4P,  
Pentaerythritol tetra(mercaptoproacetate) 22504-50-3P, Ethylene  
glycol di(3-mercaptopropionate) 33007-83-9P 34039-24-2P,  
Thiomaleic acid 67905-23-1P, Trimethylolpropane  
mono(3-mercaptopropionate) 251635-92-4P, Ethylene  
glycol-terephthalic acid **copolymer** diester with  
3-mercaptopropionic acid 251635-93-5P, Terephthalic  
acid-trimethylolpropane **copolymer** ester with  
3-mercaptopropionic acid 251635-94-6P, Pentaerythritol-  
terephthalic acid **copolymer** ester with mercaptoacetic acid  
251635-95-7P, Pentaerythritol-terephthalic acid **copolymer**  
ester with 3-mercaptopropionic acid 251635-96-8P, Adipic  
acid-pentaerythritol **copolymer** ester with  
3-mercaptopropionic acid 251635-97-9P, Hitaloid D 1002  
3-mercaptopropionate ester

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical

or engineered material use); PREP (Preparation); USES (Uses)  
(anticorrosive coating compns. for use on metal and precoated  
steel surface and method for using steel plate)

IT 9003-08-1, Melamine **resin** 164325-70-6, Mycoat 106

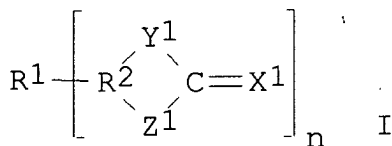
RL: MOA (Modifier or additive use); POF (Polymer in formulation);  
USES (Uses)

(curing agent; anticorrosive coating compns. for use on metal and  
precoated steel surface and method for using steel plate)

L130 ANSWER 28 OF 82 HCA COPYRIGHT 2005 ACS on STN

131:311775 Curable composition and cured article thereof. Kinsho,  
Toshihiko (Sanyo Chemical Industries Ltd., Japan). PCT Int. Appl.  
WO 9954373 A1 19991028, 57 pp. DESIGNATED STATES: W: CN, DE, JP,  
KR, US. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1999-JP1519  
19990325. PRIORITY: JP 1998-124183 19980417; JP 1999-32229  
19990210.

GI



AB A curable composition which has curability even at temps. as low as  
-20

to 5°C, has a low viscosity at a low temperature, and gives a cured  
article satisfactory in material properties such as water  
resistance, chemical resistance, and mech. properties. The

composition

comprises (A) a heterocyclic compound represented by general formula  
(I), (B) a compound having per mol. two or more electrophilic groups  
**reactive** with a **thiol** or **-S- group**, and

(C) a compound having two or more nucleophilic groups per mol. In  
said formula, n is an integer of 1 to 10; X<sup>1</sup>, Y<sup>1</sup>, and Z<sup>1</sup> each  
independently is oxygen or sulfur; R<sup>1</sup> is either a residue of (D) a  
compound having a cyclic ether group or hydrogen; and R<sup>2</sup> is a C<sub>2</sub>-10  
hydrocarbon group.

IC ICM C08G059-40

ICS C08G018-28; C08G067-04; C08G073-02; C08G064-20; C08G063-78

CC 42-10 (**Coatings**, Inks, and Related Products)

IT Adhesives

**Coating materials**

Sealing compositions

(curable composition for preparing)

L130 ANSWER 29 OF 82 HCA COPYRIGHT 2005 ACS on STN

131:46116 **Polymer** moldings protected by siloxy acrylic

**polymer** undercoatings and siloxane overcoatings. Sugamoto, Hidemasa; Kawai, Osamu; Nakauchi, Atsushi (Mitsubishi Rayon Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11157014 A2 19990615 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-343634 19971201.

AB Title moldings are protected by abrasion- and weathering resistant coatings and the coatings consist of double layer undercoatings comprising (from the bottom) (A) acrylic crosslinked **polymers** containing SiO linkage and <2% Si and (B) acrylic crosslinked **polymers** containing SiO linkage and 2-40% Si and siloxane overcoatings. The coatings are manufactured by applying compns.

containing monomers having  $\geq 2$  (meth)acryloyl groups 10-94, polymerizable (meth)acrylates 0-50, and silanes 6-90% on the substrates, curing the compns. to form the double layer undercoatings, applying compns. based on siloxanes optionally

containing

colloidal silica, drying, and heat curing. The **multilayer** coatings show improved adhesion strength to the moldings. Thus, 100 parts of a mixture of 1,6-hexanediol diacrylate (I) 104,  $\gamma$ -mercaptopropyltrimethoxysilane (KBM 803) 30, and PPh<sub>3</sub> 0.6 part in 133 parts isopropanol, after stirring at room temperature for

72

h, was mixed with 125 parts colloidal silica isopropanol dispersion (IPA-ST; 30% solid concentration) and aqueous HCl, reacted at 80° for

4

h, and mixed with 40.5 parts dipentaerythritol hexaacrylate and 21.9 parts I to give a dispersion, which was mixed with 2,4,6-trimethylbenzoyldiphenylphosphine oxide (Lucirin TPO), benzophenone, and some stabilizers to give a coating composition

Then,

the composition was applied on a polycarbonate board (Dialite P), UV-irradiated, overcoated with a coating composition (Top KP 85;

containing

colloidal silica and trialkoxysilane), and cured at 120-130° for 1 h to give title coatings having cross-cut adhesion 100/100, good Taber abrasion resistance, and no cracks after 3000-h exposure to sunshine weather meter.

IC ICM B32B027-00

ICS B32B027-30; C08J007-04; C09D183-07; C09D133-00

CC 42-10 (**Coatings, Inks, and Related Products**)

Section cross-reference(s): 38

ST crosslinked acrylic **polymer** undercoating siloxane overcoating; adhesive strength **multilayer** coating siloxane overcoating; abrasion weather resistant **multilayer**



coating; hexanediol diacrylate mercaptropropyltrimethoxysilane  
silica **copolymer** coating; colloidal silica  
mercaptropropyltrimethoxysilane dipentaerythritol hexaacrylate  
**copolymer**; organotrialkoxysilane colloidal silica  
overcoating; polycarbonate board abrasion weather resistant coating

IT **Coating materials**

(abrasion-resistant; **polymer** moldings protected by  
siloxyl acrylic **polymer** undercoatings and siloxane  
overcoatings for improved adhesion)

IT Polysiloxanes, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical  
or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic, undercoatings; **polymer** moldings protected by  
siloxyl acrylic **polymer** undercoatings and siloxane  
overcoatings for improved adhesion)

IT Polysiloxanes, uses

Polysiloxanes, uses

RL: PRP (Properties); TEM (Technical or engineered material use);  
USES (Uses)

(acrylic-polyester-, undercoatings; **polymer** moldings  
protected by siloxyl acrylic **polymer** undercoatings and  
siloxane overcoatings for improved adhesion)

IT Polyesters, uses

Polyesters, uses

RL: PRP (Properties); TEM (Technical or engineered material use);  
USES (Uses)

(acrylic-polysiloxane-, undercoatings; **polymer** moldings  
protected by siloxyl acrylic **polymer** undercoatings and  
siloxane overcoatings for improved adhesion)

IT Polycarbonates, miscellaneous

RL: MSC (Miscellaneous)

(boards; **polymer** moldings protected by siloxyl acrylic  
**polymer** undercoatings and siloxane overcoatings for  
improved adhesion)

IT Polysiloxanes, uses

RL: PRP (Properties); TEM (Technical or engineered material use);  
USES (Uses)

(overcoatings; **polymer** moldings protected by siloxyl  
acrylic **polymer** undercoatings and siloxane overcoatings  
for improved adhesion)

IT **Coating materials**

(weather-resistant; **polymer** moldings protected by  
siloxyl acrylic **polymer** undercoatings and siloxane  
overcoatings for improved adhesion)

IT 9011-14-7, Acrylite L 95828-54-9, Dialite P

RL: MSC (Miscellaneous)

(boards; **polymer** moldings protected by siloxyl acrylic  
**polymer** undercoatings and siloxane overcoatings for

- improved adhesion)
- IT 142007-88-3, Top KP 85  
RL: PRP (Properties); TEM (Technical or engineered material use);  
USES (Uses)  
(overcoatings; **polymer** moldings protected by siloxy  
acrylic **polymer** undercoatings and siloxane overcoatings  
for improved adhesion)
- IT 227185-27-5P, Dipentaerythritol hexaacrylate-1,6-hexanediol  
diacrylate-(1,6-hexanediol diacrylate- $\gamma$ -  
**mercaptopropyltrimethoxysilane**) Michael adduct  
monoacrylate **copolymer** 227201-37-8P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical  
or engineered material use); PREP (Preparation); USES (Uses)  
(undercoatings; **polymer** moldings protected by siloxy  
acrylic **polymer** undercoatings and siloxane overcoatings  
for improved adhesion)
- L130 ANSWER 30 OF 82 HCA COPYRIGHT 2005 ACS on STN
- 131:201358 Poly(thi)ols as binders for coatings and adhesives. Bartol,  
Fritz; Baumgart, Hubert; Rink, Heinz-Peter; Kraatz, Detlef; Stammer,  
Achim (BASF Coatings Aktiengesellschaft, Germany). Eur. Pat. Appl.  
EP 940459 A2 19990908, 15 pp. DESIGNATED STATES: R: AT, BE, CH,  
DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV,  
FI, RO. (German). CODEN: EPXXDW. APPLICATION: EP 1999-103598  
19990224. PRIORITY: DE 1998-19809643 19980306.
- AB Binders useful for high-solids coatings and adhesives with good  
application properties and weather resistance contain C9-16  
(cyclo)alkanes bearing  $\geq 1$  OH and/or **SH**  
**group** and crosslinking agents. A mixture of 80%  
polyisocyanate (**Desmodur** N 3390) solution 33, 53% acrylic  
acid-tert-Bu acrylate-Bu methacrylate-hydroxypropyl  
methacrylate-styrene **copolymer** solution 75, diethyloctanediol  
(isomer mixture) 4.5, light stabilizers 2.2, catalyst 0.004, and  
solvents 16.7 parts gave coatings with good resistance to acids, H<sub>2</sub>O  
and abrasion.
- IC ICM C09D201-00  
ICS C09J201-00; C09D007-00; C09J011-06
- CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 38
- ST binder coating adhesive polyol; coating binder polyol polythiol;  
adhesive binder polyol polythiol; polyol binder coating adhesive;  
polythiol binder coating adhesive; polyurethane binder polyol  
polythiol; diethyloctanediol binder coating; acrylic **polymer**  
binder coating
- IT **Coating materials**  
(poly(thi)ols as binders for coatings)
- IT 96510-63-3, **Desmodur** N 3390  
RL: TEM (Technical or engineered material use); USES (Uses)

(crosslinker; poly(thi)ols as binders for coatings and adhesives)

L130 ANSWER 31 OF 82 HCA COPYRIGHT 2005 ACS on STN

129:42356 Method for coating substrates. Yan, Mingdi (Ikonos Corp., USA). PCT Int. Appl. WO 9822541 A2 19980528, 122 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1997-US20389 19971107. PRIORITY: US 1996-30712 19961108.

AB Methods for coating substrates such as Si-containing substrates to potentiate biocompatibility of the substrate are described. The methods comprise coating at least a portion of a substrate with particular coating materials such as polyolefins. Materials can be crosslinked and coated onto a substrate. Alternatively, the coating materials may be **covalently** bonded to the substrates. The coating materials might functionalize the substrate or provide a biocompatible coating thereon. The coating materials might also include electrophilic or nucleophilic groups that allow for the subsequent reaction of the coating materials with addnl. reagents. The present invention also provides coated workpieces that contact tissue or blood. The workpieces may be coated with a first and second layer. The first layer comprises a mol. tether covalently bonded to the surface. The second layer is bonded to the article by the first layer and comprises a bioactive agent. The present invention also provides for potentiating biocompatibility of workpieces by coating the workpieces with a non-crosslinked **polymeric** film that is applied to the substrate surface and is neither crosslinked nor **covalently** bonded thereto. Addnl., the present invention provides for multiple layering of substrates with crosslinked, non-crosslinked, covalently bonded, or non-covalently bonded polymeric films. Optionally, silanes are used as coupling agents between the substrates and the polymer coatings, and optionally, primers are used that containing polymers having groups that react with a nitrene and a reagent having  $\geq 2$  nitrenogenic groups, which are exposed to an energy source to cause a reaction the formation of the nitrene.

IC ICM C09D

CC 42-2 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57, 63

ST polyolefin coating silicon contg substrate; bioactive coating silicon contg substrate; **polymer** primer nitrenogenic

compd; silane coupling agent polyolefin coating; biocompatible coating silicon contg substrate

IT Coupling agents

(silanes and adducts of **polymers** and compds. containing azide and functional groups; spin coating silicon wafers with polyolefins)

IT Coating process

(spin; spin coating silicon wafers with polyolefins)

IT 25038-59-9, PET **polymer**, uses

RL: DEV (Device component use); USES (Uses)

(angioplasty balloons, coating substrates; coating and(or) functionalizing substrates using compds. containing azide and functional groups)

IT 143-10-2DP, 1-Decanethiol, reaction products with metals, compds. containing azide and functional groups, and oligonucleotides  
334-48-5DP, Decanoic acid, reaction products with metals, compds. containing azide and functional groups, and oligonucleotides  
1303-00-0DP, Gallium arsenide, reaction products with decanethiol, compds. containing azide and functional groups, and oligonucleotides  
1306-23-6DP, Cadmium sulfide, reaction products with decanethiol, compds. containing azide and functional groups, and oligonucleotides  
2690-08-6DP, Octyl sulfide, reaction products with metals, compds. containing azide and functional groups, and oligonucleotides  
7429-90-5DP, Aluminum, reaction products with decanoic acid, compds. containing azide and functional groups, and oligonucleotides,  
preparation 7440-06-4DP, Platinum, reaction products with decanethiol, compds. containing azide and functional groups, and oligonucleotides, preparation 7440-22-4DP, Silver, reaction products with decanethiol, compds. containing azide and functional groups, and oligonucleotides, preparation 7440-50-8DP, Copper, reaction products with decanethiol, compds. containing azide and functional groups, and oligonucleotides, preparation 9003-07-0DP, Polypropylene, **reaction** products with **adducts** of gold, **mercaptodecylamine** and compds. containing azide and functional groups

RL: IMF (Industrial manufacture); PREP (Preparation)

(coated substrate; coating and(or) functionalizing substrates using compds. containing azide and functional groups)

L130 ANSWER 32 OF 82 HCA COPYRIGHT 2005 ACS on STN

129:317086 One-component-type curable compositions containing mercapto compounds. Nakamura, Masataka; Henmi, Masahiro (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 10265612 A2 19981006 Heisei, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-69636 19970324.

AB The title compns. contain compds. having protected **mercapto groups** and compds. having  $\geq 2$  C-C double bonds in a mol. The compns. are cured by the addition **reactions** of

**mercapto groups** with C-C double bonds and useful for coatings, adhesives, sealing compns., etc. Thus, polysulfides (a mixture of Thiokol LP 56 and LP 3) were trimethylsilylated with hexamethyldisilazane and 100.0 parts of the resulting trimethylsilyl derivs. were mixed with 10.0 parts polyethylene glycol diacrylate (NK Ester A 400), 10.0 parts ethylene oxide-modified trimethylolpropane triacrylate (Light Acrylate TMP 6EO3A), N-nitrosophenylhydroxylamine Al salt, and 1,8-diazabicyclo[5.4.0]undecene-7 under N and sealed in an Al tube. The composition was cured within 1 day after extruding on a paper plate at 20° and relative humidity 70%.

- IC ICM C08K005-378
- ICS C08L101-00; C09D007-12; C09D201-00; C09J011-06; C09J201-00
- CC 37-6 (Plastics Manufacture and Processing)
- Section cross-reference(s): 38, 42
- IT Crosslinking **catalysts**
- Polymerization inhibitors
- Sealing compositions
  - (one-component-type curable compns. containing mercapto compds. and vinyl compds.)
- IT Polyoxyalkylenes, preparation
- RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
- (reaction products with 2-methacryloyloxyethyl isocyanate, **polymers** with acrylates and trimethylsilylated polysulfides; one-component-type curable compns. containing mercapto compds. and vinyl compds.)
- IT Polysulfide rubber
- RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
- (reaction products with hexamethyldisilazane, **polymers**; one-component-type curable compns. containing mercapto compds. and vinyl compds.)
- IT **Coating materials**
- (room-temperature-curable; one-component-type curable compns. containing mercapto compds. and vinyl compds.)
- IT 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 4271-96-9,
- 1,2-Dimethyl-1,4,5,6-tetrahydropyrimidine 6674-22-2,
- 1,8-Diazabicyclo[5.4.0]undecene-7 33918-18-2, U-CAT SA
- 102 84030-20-6, 7-Methyl-1,5,7-triazabicyclo[4.4.0]dec-5-ene
- 106847-76-1
- RL: CAT (Catalyst use); USES (Uses)
- (**catalyst**; one-component-type curable compns. containing mercapto compds. and vinyl compds.)
- IT 822-06-ODP, HDI, **polymers** with polyether polyols, acrylates, and polysulfides 868-77-9DP, 2-Hydroxyethyl

methacrylate, reaction products with urethane prepolymers, **polymers** with polysulfides 999-97-3DP, Hexamethyldisilazane, reaction products with polysulfides, **polymers** 10029-04-6DP, Ethyl  $\alpha$ -(hydroxymethyl)acrylate, reaction products with urethane prepolymers, **polymers** with polysulfides 25322-69-4DP, Sannix PP 3000, reaction products with 2-methacryloyloxyethyl isocyanate, **polymers** with acrylates and trimethylsilylated polysulfides 26570-48-9DP, NK Ester A 400, **polymers** with trimethylsilylated polysulfides and ethylene oxide-modified trimethylolpropane triacrylate 28961-43-5DP, Light Acrylate TMP 6EO3A, **polymers** with trimethylsilylated polysulfides and polyethylene glycol diacrylate 30674-80-7DP, Karenzu MOI, reaction products with polypropylene glycol, **polymers** with acrylates and trimethylsilylated polysulfides  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (one-component-type curable compns. containing mercapto compds. and vinyl compds.)

IT 15305-07-4

RL: CAT (Catalyst use); USES (Uses)

(**polymerization** inhibitor; one-component-type curable compns. containing mercapto compds. and vinyl compds.)

L130 ANSWER 33 OF 82 HCA COPYRIGHT 2005 ACS on STN

128:322908 Solventless hard coatings and **resin** moldings coated therewith. Nakauchi, Atsushi; Kawai, Osamu; Sugamoto, Hidetuki (Mitsubishi Rayon Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10095937 A2 19980414 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-269145 19960920.

AB The coatings contain (a) (meth)acrylate monomers or their partial condensates and (b) metal oxide fine particles whose surfaces are treated with hydrolyzates of silanes having the structure  $Xa(R1)_3-aSiR2SCH2CHR3CO2Y[O2CC(R4):CH2]b$  [R1 = monovalent hydrocarbyl, fluorinated alkyl; R2 = C1-10 divalent hydrocarbyl; R3, R4 = H, Me; X = hydrolyzable group; Y = (ether, ester, or urethane bond-containing) hydrocarbyl with valency  $\geq 2$ ; a = 1-3; b = 1-5]. The coatings are applied onto **resin** moldings and radically **polymerized** to give hard coats. Thus, 100 parts mixture containing iso-Pr alc. 133, 1,6-hexanediol diacrylate (I) 104,  $\gamma$ -mercaptopropyltrimethoxysilane KBM 803 30, and PPh3 0.6% and 4.5 parts 0.01N HCl were mixed with 125 parts IPA-ST (colloidal SiO<sub>2</sub>, iso-Pr alc. dispersion, 30%-solids). Then the surface-treated SiO<sub>2</sub> was mixed with 21.9 parts I and 40.5 parts a polyester acrylate prepared from trimethylolethane, succinic acid, and acrylic acid at mol. ratio 2:1:4 to give a dispersion, 100 parts of which was mixed with 2.8 parts Lucirin TPO and 1 part benzophenone to give a coating. Dialite P (polycarbonate plate) was coated with the

coating, **laminated** with a PET film, and exposed to UV to give a coat showing light transparency 90%, cross-cut adhesion 100/100, haze 0.3%, and excellent abrasion resistance.

IC ICM C09D007-12

ICS C09D167-07; G02B001-10; C08F299-02; C09D004-00; C09D183-08

CC 42-7 (**Coatings, Inks, and Related Products**)

IT **Coating materials**

(abrasion-resistant; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT Polyesters, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(acrylate-terminated; solventless hard coatings containing

acrylates

and silane-treated metal oxide particles for **resin** moldings)

IT Polyesters, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acrylic; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT Silanes

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(alkoxy, **mercaptoalkoxysilane-acrylate adducts**

, coupling agent; solventless hard coatings containing acrylates

and

silane-treated metal oxide particles for **resin** moldings)

IT Thioethers

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(**mercaptoalkoxysilane-acrylate adducts**,

coupling agent; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT Coupling agents

(**mercaptoalkoxysilane-acrylate adducts**;

solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT **Coating materials**

(solventless; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT Polycarbonates, miscellaneous

RL: MSC (Miscellaneous)

(substrates; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT **Coating materials**

(transparent; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT 7631-86-9, Colloidal silica, uses

RL: MOA (Modifier or additive use); USES (Uses)

(Snowtex IPA-ST, surface-treated with silane coupling agent; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT 196946-98-2P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)

(coupling agent; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT 69467-54-5P 163073-62-9P 206565-56-2P 206565-58-4P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

IT 9011-14-7, Acrylite L 95828-54-9, Dialite P

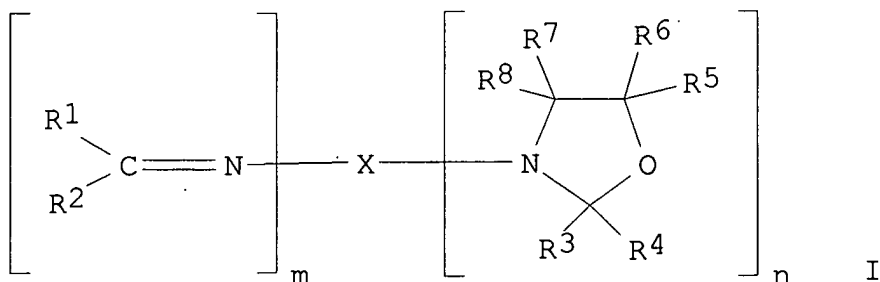
RL: MSC (Miscellaneous)

(substrates; solventless hard coatings containing acrylates and silane-treated metal oxide particles for **resin** moldings)

L130 ANSWER 34 OF 82 HCA COPYRIGHT 2005 ACS on STN

126:158841 Aldimine oxazolidines for polyurethane coatings. Chou, Chih-yueh; Hoffman, Marina D. (Angus Chemical Company, USA). U.S. US 5591819 A 19970107, 8 pp., Cont.-in-part of U.S. 5,466,769. (English). CODEN: USXXAM. APPLICATION: US 1994-321227 19941011. PRIORITY: US 1993-143470 19931026.

GI





- AB Compds. I (R1-R8 = H, Me, Et, CH<sub>2</sub>OH, CH<sub>2</sub>CH<sub>2</sub>OH, alkyl, alkanol group, cycloalkyl, aryl, including groups substituted by nitro, halogen, thiol and amino functional groups, such that when R5-R8 =H, R3 and R4 are not H; X = direct bond, R<sub>9</sub>ZR<sub>10</sub>; R<sub>9</sub>, R<sub>10</sub> = CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>, alkylene, cycloalkylene, arylene, including groups substituted by nitro, halogen, thiol and amino functional groups; Z = direct bond or an (m + n) - valent CH<sub>2</sub>, CH<sub>2</sub>CH<sub>2</sub>, alkylene, cycloalkylene, or arylene, including groups substituted by nitro, halogen, **thiol** and amino **groups**; m, n = 1-5) are prepared and are useful for improving the phys. properties and pot life of urethane coatings. Thus,  $\alpha,\alpha,4,4$ -tetramethyl-2-(1-methylethyl)-N-(2-methylpropylidene)-3-oxazolidineethanamine was prepared and added to polyurethane-acrylic coatings and polyurethane-polyester coatings. The resulting coatings showed improved impact and chemical resistance, along with improved pot life.
- IC ICM C08G018-28
- NCL 528073000
- CC 42-10 (Coatings, Inks, and Related Products)
- IT **Coating materials**  
(abrasion-, impact- and weather-resistant; aldimine oxazolidine-containing urethane coatings with improved pot life)
- IT **Coating materials**  
(**clear coat**; aldimine oxazolidine-containing urethane coatings with improved phys. properties and pot life)
- IT Acrylic **polymers**, uses  
RL: PRP (Properties); TEM (Technical or engineered material use);  
USES (Uses)  
(polyurethane-; aldimine oxazolidine-containing urethane coatings with improved phys. properties and pot life)
- L130 ANSWER 35 OF 82 HCA COPYRIGHT 2005 ACS on STN  
126:158827 **Resin** compositions with low solvent content, coating compositions containing them, and coating method. Marutani, Yoshiaki; Oosawa, Mika (Mazda Motor, Japan). Jpn. Kokai Tokkyo Koho JP 08325473 A2 19961210 Heisei, 30 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-137814 19950605.
- AB **Resin** compns. for low-solvent coatings are characterized by comprising star or starburst **polymers** having  $\geq 3$  radial branches, weight-average mol. weight 1500-30000,  $\geq 1$  of a first functional group, which is involved in the curing reaction, in each branch, and the total amount of the first functional group 1-5 mol/kg **resin**. The star or starburst **polymers** are synthesized by (1) radically **polymerizing** monomers having both the first functional group and radically polymerizable unsatd. bonds in the presence of a compound having a second functional **group** and a **thiol group** to obtain **polymers**

having the first functional group and terminated at one end with the second functional group and (2) reacting the resulting **polymers** with a compound having  $\geq 3$  functional groups which are reactive to the second functional group. Thus glycidyl methacrylate 28.4, lauryl methacrylate 20, Bu methacrylate 20, and styrene 31.6 parts were **polymerized** in the presence of 7.8 parts mercaptoethanol; the resulting hydroxy-terminated **polymer** was then reacted with Burnock DN 901S (in 1000:82.9 ratio) to give a star **polymer** which was formulated into a gasoline-resistant **clear coating**.

- IC ICM C09D004-00  
ICS B05D001-40; B05D007-24; C09D133-14
- CC 42-10 (**Coatings, Inks, and Related Products**)
- ST star **polymer** coating low solvent; starburst **polymer** coating low solvent; dendritic **polymer** coating gasoline resistant
- IT Aminoplasts  
RL: MOA (Modifier or additive use); USES (Uses)  
(low-solvent coatings containing star or starburst **polymers**)
- IT **Coating materials**  
(low-solvent, gasoline-resistant; starburst **polymers** for **resin** compns. with low solvent content for coatings)
- IT **Coating process**  
(**resin** compns. with low solvent content, coating compns. containing them, and coating method)
- IT Epoxy **resins**, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(star or starburst **polymers** for **resin** compns. with low solvent content for coatings)
- IT **Polymers**, uses  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(star-branched; star **polymers** for **resin** compns. with low solvent content for coatings)
- IT Dendritic **polymers**  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(starburst **polymers** for **resin** compns. with low solvent content for coatings)
- IT 9003-08-1, U-Van 120 13463-67-7, Titanium oxide, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(low-solvent coatings containing star or starburst **polymers**)

- )
- IT 142106-16-9, Burnock DN 901S  
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (preparation of star or starburst **polymers** and low-solvent coatings)
- IT 26473-47-2DP, reaction products with epoxy **resins**  
 186844-68-8DP, Denacol EX 80, reaction products with methylmercaptopropionic acid  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of star or starburst **polymers** for resin compns. with low solvent content for coatings)
- IT 60-24-2, Mercaptoethanol 77-99-6 79-42-5, 2-Mercaptopropionic acid 108-30-5, reactions 108-80-5D, Isocyanuric acid, epoxy derivs. 115-77-5, reactions 3540-36-1 77704-50-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of star or starburst **polymers** for resin compns. with low solvent content for coatings)
- IT 937-14-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of sulfonated star **polymers** for resin compns. with low solvent content for coatings)
- IT 31423-16-2P 67953-66-6P 85214-51-3P, Placel FM 1  
**homopolymer** 112145-57-0P 163756-44-3P 186693-32-3P  
 186693-33-4P 186693-34-5P 186693-35-6P 186693-36-7P  
 186693-37-8P 186693-38-9P 186693-39-0P 186693-40-3P  
 186693-41-4P 186693-42-5P 186693-43-6P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (star **polymers** for resin compns. with low solvent content for coatings)
- IT 145612-25-5P 186693-44-7P 186693-45-8P 186693-46-9P  
 186693-47-0P 186693-48-1P 186693-49-2P 186693-50-5P  
 186693-51-6P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (starburst **polymers** for resin compns. with low solvent content for coatings)

L130 ANSWER 36 OF 82 HCA COPYRIGHT 2005 ACS on STN

124:205154 One-component **aqueous polyurethane** coating compositions containing a reactive additive. Lange, Hartwig; Ortel, Martina (Chemische Werke Huels AG, Germany). Eur. Pat. Appl. EP 691356 A1 19960110, 7 pp. DESIGNATED STATES: R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE. (German). CODEN: EPXXDW.

APPLICATION: EP 1995-107109 19950511. PRIORITY: DE 1994-4424277  
19940709.

- AB A reactive additive containing OH, NH, NH<sub>2</sub>, and/or **SH groups** (e.g., polytetramethylene glycol) is used in the title compns. which contain **polyacrylate** polyols or **polyester** polyols and water-stable polyisocyanates or blocked polyisocyanates and give uniform glossy coatings.
- IC ICM C08G018-40  
ICS C09D175-04
- ICI C09D175-04, C09D161-28
- CC 42-10 (**Coatings**, Inks, and Related Products)
- ST **polyurethane aq** one component coating additive; polytetramethylene glycol additive **polyurethane aq** coating
- IT **Coating materials**  
(reactive additive in one-component **aqueous polyurethane** coating compns. for uniform glossy films)
- IT **Urethane polymers**, uses  
RL: PRP (Properties); TEM (Technical or engineered material use);  
USES (Uses)  
(reactive additive in one-component **aqueous polyurethane** coating compns. for uniform glossy films)
- IT 25190-06-1, Polytetramethylene glycol  
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(additive in one-component **aqueous polyurethane** coating compns. for uniform glossy films)
- L130 ANSWER 37 OF 82 HCA COPYRIGHT 2005 ACS on STN  
123:146870 Curable **resin** compositions containing silyl group-bonded **polymer** emulsions. Ando, Naotami (Kanegafuchi Chemical Ind, Japan). Jpn. Kokai Tokkyo Koho JP 07033993 A2 19950203 Heisei, 14 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1993-176879 19930716.
- AB The title compns., with good weatherability and useful as coatings, comprise (A) emulsions of **polymers** containing silyl-containing compds., (B) organic Sn compds. and (C) **mercapto group**-containing compds. Blending 10 parts 40%-solid  $\gamma$ -methacryloxypropyltrimethoxysilane-Bu methacrylate-Me methacrylate-Bu acrylate **copolymer** emulsion and 1 part a hardener emulsion comprising dibutyltin dilaurate, dodecylmercaptan, surfactants, propylene glycol and water gave a composition showing good storage stability and good hardness.
- IC ICM C08L101-10  
ICS C08K005-37; C08K005-57; C09D201-10
- CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 37

IT **Automobiles**

Building materials

**Coating materials**

(curable coatings with weatherability comprising emulsions of silyl group-containing **polymers**, organic Sn compds, and **mercapto group**-containing compds. for buildings and **automobiles**)

## IT Siloxanes and Silicones, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(acrylic, curable coatings with weatherability comprising emulsions of silyl group-containing **polymers**, organic Sn compds, and **mercapto group**-containing compds. for buildings and **automobiles**)

## IT 99716-61-7P 162978-36-1P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable coatings with weatherability comprising emulsions of silyl group-containing **polymers**, organic Sn compds, and **mercapto group**-containing compds. for buildings and **automobiles**)

IT 77-58-7, Dibutyltin dilaurate 112-55-0, 1-Dodecanethiol 4420-74-0,  $\gamma$ -Mercaptopropyltrimethoxysilane 16091-18-2

RL: MOA (Modifier or additive use); USES (Uses)  
(curable coatings with weatherability comprising emulsions of silyl group-containing **polymers**, organic Sn compds, and **mercapto group**-containing compds. for buildings and **automobiles**)

L130 ANSWER 38 OF 82 HCA COPYRIGHT 2005 ACS on STN

122:293588 Silsesquioxane primers and hard coat-coated transparent resin moldings therefrom. Tajiri, Yoko; Sasagawa, Katsuyoshi; Suzuki, Yoryuki (Mitsui Toatsu Chemicals, Japan). Jpn. Kokai Tokkyo Koho JP 07026207 A2 19950127 Heisei, 6 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1993-167697 19930707.

AB Title primers contain  $\geq 1$  SH group-containing

compds. 10,  $R_nSi(OR')_{4-n}$  [R = C1-6 alkyl, or viny-, methacryloxy-, epoxy-,  $NH_2$ -, SH-, F-, Cl- containing (cyclo)alkyl or aryl; R' = H, acyl, C1-3 alkyl] 20-200, colloidal  $SiO_2$  gel 40-200, curing catalysts 0.1-20, and organic solvents 1-500 parts. A pentaerythritol tetrakis(3-mercaptopropionate)-m-xylylene diisocyanate copolymer lens was coated with an aqueous HCl solution-mixed organic

composition containing

3-chloropropyltrimethoxysilane,  $SiO_2$  gel, Al catalyst, and 1,4-benzene dithiol, cured, and covered with a composition containing

 $SiO_2$ ,

Al catalyst, and 3-glycidoxypropyltrimethoxysilane hydrolyzate, and baked to form a lens with good interlayer adhesion and chemical and

hot

water resistance.

- IC ICM C09D183-04  
ICS C08J007-04; C09D001-00; C09D005-00
- CC 42-10 (**Coatings**, Inks, and Related Products)
- IT Acrylic polymers, miscellaneous  
Epoxy resins, miscellaneous  
Plastics, molded  
Polycarbonates, miscellaneous  
**Polyesters**, miscellaneous  
Urethane polymers, miscellaneous  
RL: MSC (Miscellaneous)  
(silsesquioxane primers for plastic lenses)
- IT **Coating materials**  
(primers, silsesquioxane primers for plastic lenses)
- IT 9002-85-1, Poly(vinylidene chloride) 9002-86-2, PVC 9003-53-6,  
Polystyrene 9004-35-7, Acetyl **cellulose** 9011-14-7,  
PMMA 25656-90-0, Diethylene glycol bis(allyl carbonate)  
homopolymer 112453-89-1, Pentaerythritol tetrakis(3-  
mercaptopropionate)-m-xylylene diisocyanate copolymer 163219-72-5  
RL: MSC (Miscellaneous).  
(lenses; silsesquioxane primers for plastic lenses)
- L130 ANSWER 39 OF 82 HCA COPYRIGHT 2005 ACS on STN  
122:317052 Oxyalkylene copolymer, **polyurethane** and acrylic  
copolymer composition for coating primer with good duration.  
Suzuki, Mikiko; Kawamura, Yuzuru; Kawakubo, Fumio (Kanegafuchi  
Chemical Ind, Japan). Jpn. Kokai Tokkyo Koho JP 07011223 A2  
19950113 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1993-153443 19930624.
- AB The composition comprises reactive silyl-containing oxyalkylene  
copolymers,  
**polyurethanes** and copolymers from C1-8 alkyl (meth)acrylate  
and C $\geq$ 10 alkyl (meth)acrylate. A durable coating from a  
mixture of methyldimethoxysilane-polyoxypropylene copolymer, a  
**polyurethane** and Bu acrylate-Me methacrylate-methacrylic  
acid- $\gamma$ -methacryloxypropylmethyldimethoxysilane- $\gamma$ -  
**mercaptopropylmethyldimethoxysilane** copolymer **contg**  
. dibutyltin phthalate showed good duration after 5 yrs.
- IC ICM C09J175-04  
ICS C09J005-02; C09J133-06; C09J143-04; C09J171-02
- CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 37
- ST polyoxyalkylene silane copolymer blend **polyacrylate**;  
primer **polyurethane polyacrylate** silane  
copolymer; duration coating polyoxypropylene silane copolymer
- IT **Urethane polymers**, uses  
RL: NUU (Other use, unclassified); TEM (Technical or engineered  
material use); USES (Uses)

(Oxyalkylene copolymer, **polyurethane** and acrylic copolymer composition for coating primer with good duration)

IT Polyoxyalkylenes, uses  
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
 (polymers, Oxyalkylene copolymer, **polyurethane** and acrylic copolymer composition for coating primer with good duration)

IT **Coating materials**  
 (primers, Oxyalkylene copolymer, **polyurethane** and acrylic copolymer composition for coating primer with good duration)

IT 163656-08-4 163656-09-5  
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
 (Oxyalkylene copolymer, **polyurethane** and acrylic copolymer composition for coating primer with good duration)

L130 ANSWER 40 OF 82 HCA COPYRIGHT 2005 ACS on STN

124:59256 Process for painting a motor **vehicle** with a urethane-forming composition during repair or refinishing. Fenn, David Robert; Kay, Graham Stuart (Imperial Chemical Industries PLC, UK). Eur. Pat. Appl. EP 677541 A1 19951018, 14 pp. DESIGNATED STATES: R: DE, ES, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1995-104613 19950329. PRIORITY: GB 1994-7495 19940415; GB 1994-22243 19941104; GB 1994-22244 19941104.

AB The title process comprises mixing  $\geq 2$  pigmented base paints containing an OH-functional **polymer** to give a desired color, optionally adding an unpigmented blending clear containing an OH-functional **polymer**, adding a tin-containing catalyst for the isocyanate-OH reaction along with a compound containing  $\geq 3$  **SH groups** ( $\geq 1$  of these components is optionally added as part of the blending clear), adding an isocyanate group-containing crosslinker before or after the catalyst

and polythiol are added, applying a coating of the composition to the surface of a **vehicle**, and curing the coating. The coating composition has a consistent pot life regardless of the pigments present.

IC ICM C08G018-24  
 ICS C08G018-38

CC 42-2 (**Coatings**, Inks, and Related Products)

ST painting polyurethane motor **vehicle** repair; pot life paint polyurethane **vehicle** repair; isocyanate polyol pigment paint pot life; tin catalyst polyurethane paint pot life; crosslinking catalyst polyurethane paint pot life; repainting **vehicle** polyurethane pot life

IT Urethane **polymers**, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(curable paints with controlled pot life for refinishing of motor  
**vehicles**)

IT **Automobiles**

(curable polyurethane paints with controlled pot life for  
refinishing of)

IT **Pigments**

(in curable urethane paints with controlled pot life for  
refinishing of motor **vehicles**)

IT **Crosslinking catalysts**

(tin compds.; in curable urethane paints with controlled pot life  
for refinishing of motor **vehicles**)

IT **Coating process**

(with curable polyurethane-forming compns. having controlled pot  
life for refinishing of motor **vehicles**)

IT **Coating materials**

(paints, curable polyurethane-forming compns. with controlled pot  
life for refinishing of motor **vehicles**)

IT 25168-24-5, Irgastab 17M

RL: CAT (Catalyst use); USES (Uses)

(catalysts; in curable urethane paints with controlled pot life  
for refinishing of motor **vehicles**)

IT 7539-04-0, Pentaerythritol tris-(3-mercaptopropionate) 7575-23-7,  
Pentaerythritol tetramercaptopropionate

RL: MOA (Modifier or additive use); USES (Uses)

(in curable urethane paints with controlled pot life for  
refinishing of motor **vehicles**)

L130 ANSWER 41 OF 82 HCA COPYRIGHT 2005 ACS on STN

122:242399 **Mercapto group**-containing organic silicon

compounds as modifiers for coating materials. Yamazaki, Toshio;  
Ichinohe Seiji (Shinetsu Chemical Industry Co., Ltd., Japan). Jpn.  
Kokai Tokkyo Koho JP 06184168 A2 19940705 Heisei, 10 pp.  
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-292256 19921006.

AB The title compds. HRSiR1a(OSiR2R3R4)3-a (R = C1-10 divalent organic  
group; R1-4 = C1-8 monovalent organic group or OSiR5R6R7; R5-7 = C1-8  
monovalent organic group; a = 0,1, or 2) give good heat and weather  
resistance, surface appearance, and gas impermeability to the  
coatings. Thus, alkyd **resin**-melamine **resin**-  
**based coating** was modified with

HS(CH2)3Si(OSiMe3)3 prepared from HS(CH2)3Si(OMe)3 and ClSiMe3.

IC ICM C07F007-08

ICS C08K005-54

CC 42-5 (**Coatings**, Inks, and Related Products)

IT **Alkyd resins**

RL: POF (Polymer in formulation); TEM (Technical or engineered  
material use); USES (Uses)

(**mercapto group**-containing organic silicon compds.)



- as modifiers for coating materials)
- IT **Coating materials**  
(heat-resistant, **mercapto group**-containing organic silicon compds. as modifiers for coating materials)
- IT Siloxanes and Silicones, uses  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(**mercapto, mercapto group**-containing organic silicon compds. as modifiers for coating materials)
- IT 162396-03-4 162396-04-5  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(**mercapto group**-containing organic silicon compds. as modifiers for coating materials)
- IT 9003-08-1, Superbeckamine G-821  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(**mercapto group**-containing organic silicon compds. as modifiers for coating materials)

L130 ANSWER 42 OF 82 HCA COPYRIGHT 2005 ACS on STN

121:181576 Manufacture of aqueous polyurethane dispersions. Tamaki, Yoshifumi; Matsumoto, Yasuhiro (Dainippon Ink & Chemicals, Japan). Jpn. Kokai Tokkyo Koho JP 06145278 A2 19940524 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-294304 19921102.

AB The title storage-stable dispersions are manufactured by reacting polyisocyanates and macromonomers prepared by radical **polymn** . of radically-polymerizable unsatd. monomers containing tertiary and/or

quaternary N in the presence of mercaptan-type chain-transfer agents containing  $\geq 2$  OH and 1 **mercapto groups**.

Thus, 200 parts dimethylaminoethyl methacrylate in 172 parts MEK was **polymerized** in the presence of 10 parts thioglycerin and 1 part catalyst at 80° for 8 h to give 55%-solid macromonomer with OH value 26.7 and amine value 187.1, 288.4 parts of which was mixed with polycaprolactone diol with mol. weight 1000 1097.2; neopentyl glycol 144, **Desmodur W** 524, dibutyltin dilaurate 0.4, and MEK 1445 parts, urethanated at 75° for 20 h, neutralized by adding 58 parts glacial acetic acid, emulsified by dropwisely adding 4990 parts water, and evaporated to remove MEK to give 30%-solids dispersion storable  $\geq 3$  mo. A coating from the dispersion showed no coloring by heating in the dryer.

IC ICM C08G018-08

ICS C08G018-62

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 42

IT **Coating materials**

(urethanes, macromonomers for, with heat resistance)

- IT Urethane **polymers**, preparation  
RL: PREP (Preparation)  
(polyester-, preparation of, aqueous dispersions, for coating, with heat resistance)
- IT 126-30-7DP, Neopentyl glycol, graft **copolymer** with dimethylaminoethyl methacrylate telomer, polycaprolactone diol, and hydrogenated diphenylmethane diisocyanate 5124-30-1DP, hydrogenated, graft **copolymer** with dimethylaminoethyl methacrylate telomer, neopentyl glycol, and polycaprolactone diol 24980-41-4DP, Polycaprolactone, diol derivs., graft **copolymer** with dimethylaminoethyl methacrylate telomer, neopentyl glycol, and hydrogenated diphenylmethane diisocyanate 25248-42-4DP, Polycaprolactone, sru, diol derivs., graft **copolymer** with dimethylaminoethyl methacrylate telomer, neopentyl glycol, and hydrogenated diphenylmethane diisocyanate 79103-62-1DP, **Desmodur W**, graft **copolymer** with dimethylaminoethyl methacrylate telomer, neopentyl glycol, and polycaprolactone diol 157796-78-6DP, graft **copolymer** with polyester diols and diisocyanates 157796-79-7P 157796-80-0P  
RL: PREP (Preparation)  
(preparation of, aqueous dispersions, for coating, with heat resistance)
- L130 ANSWER 43 OF 82 HCA COPYRIGHT 2005 ACS on STN  
121:11923 Water-based polyurethane **coatings** with smooth surface and wear resistance. Tamaki, Yoshifumi; Matsumoto, Yasuhiro (Dainippon Ink & Chemicals, Japan). Jpn. Kokai Tokkyo Koho JP 06016997 A2 19940125 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-172964 19920630.
- AB Title blocking-resistant coatings comprise dispersions, in aqueous media, of polyurethanes from (a) 1-terminal-functionalized polyhydroxy macromers prepared by radical **polymerization** of (meth)acryloyl-containing silicone monomers in the presence of chain-transfer agents substituted with  $\geq 2$  OH and 1 **mercapto group** and (b) polyisocyanates. Thus, 1017 parts poly(butylene adipate) diol, 302.5 parts a macromer comprising 6:4 Silaplane FM 0721 and Me methacrylate prepared in the presence of thioglycerin, 144 parts dimethylolpropionic acid, 36.2 parts neopentyl glycol, 917 parts 4,4'-dicyclohexylmethane diisocyanate, and 0.6 part Sn(II) octylate were heated in a mixture of 1007 parts MEK and 604 parts N-methylpyrrolidone at 75° for 8 h then the resulted isocyanate-terminated prepolymer was neutralized by 108.5 parts Et3N, emulsified by 7166 parts water, and mixed with 425 parts aqueous solution containing 85 parts isophoronediamine to give 30%-solids composition, which was applied onto a PET film and dried at 80° to give a test piece showing haze 90%, friction coefficient

- 0.11, and good wear resistance.
- IC ICM C09D175-04  
ICS C09D004-00
- ICA C08F299-06
- CC 42-10 (**Coatings**, Inks, and Related Products)
- ST water **based** polyurethane **coating**; smooth surface  
aq polyurethane coating; wear resistance aq polyurethane coating;  
acrylic siloxane macromer polyurethane coating; mercapto chain  
transfer agent siloxane; thioglycerin chain transfer agent  
polyurethane; polyester polyurethane **coating** water  
**based**
- IT Chain-transfer agents  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, water-**based coatings**, with smooth  
surface and wear resistance)
- IT **Coating materials**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(abrasion-resistant, water-based acrylic siloxane-polyurethanes,  
acrylic siloxane macromers for)
- IT Siloxanes and Silicones, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(acrylic, preparation of, for water-**based** polyurethane  
**coatings**, mercapto- and hydroxy-containing chain-transfer  
agents for)
- IT Siloxanes and Silicones, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(acrylic-polyurethane-, preparation of, water-**based**  
**coatings**, with smooth surface and wear resistance)
- IT Urethane **polymers**, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(acrylic-siloxane-, preparation of, water-**based**  
**coatings**, with smooth surface and wear resistance)
- IT Siloxanes and Silicones, uses  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(di-Me, [dimethyl[3-[(1-oxo-2-propenyl)oxy]propyl]silyl]- and  
(trimethylsilyl)-terminated, reaction products with acrylic  
monomers, Silaplane FM 0721, for water-**based**  
polyurethane **coatings**, chain-transfer agents for)
- IT Monomers  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(macro-, acrylic siloxanes, for water-**based**  
polyurethane **coatings**, chain-transfer agents for)
- IT 96-27-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chain-transfer agents, for preparation of acrylic siloxane  
macromonomers, for water-**based** polyurethane  
**coatings**)
- IT 80-62-6DP, reaction products with acrylic siloxanes

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, for water-based polyurethane  
coatings, chain-transfer agents for)

IT 110-63-4DP, 1,4-Butanediol, reaction products with polyisocyanates  
and acrylic siloxane macromers 126-30-7DP, reaction products with  
acrylic siloxane macromers and polyisocyanates 302-01-2DP,  
Hydrazine, reaction products with acrylic siloxane-containing  
polyurethanes 2855-13-2DP, reaction products with acrylic  
siloxane-containing polyurethanes 4098-71-9DP, reaction products

with

acrylic siloxane macromers and polyols 4457-71-0DP, reaction  
products with polyisocyanates and acrylic siloxane macromonomers  
4767-03-7DP, reaction products with acrylic siloxane macromonomers  
and polyisocyanates 5124-30-1DP, reaction products with acrylic  
siloxane macromers and polyols 24936-97-8DP, reaction products  
with acrylic siloxane macromonomers and polyisocyanates  
24980-41-4DP, diols, reaction products with polyisocyanates and  
acrylic siloxane macromers 25103-87-1DP, reaction products with  
acrylic siloxane macromonomers and polyisocyanates 58481-50-8DP,  
reaction products with acrylic siloxane macromers and  
polyisocyanates

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, water-based coatings, with smooth  
surface and wear resistance)

L130 ANSWER 44 OF 82 HCA COPYRIGHT 2005 ACS on STN

121:135614 Siloxane compositions for peelable cured films. Hayashi,  
Masufumi; Kaiya, Nobuo; Sasaki, Shosaku (Dow Corning Toray Silicone,  
Japan). Jpn. Kokai Tokkyo Koho JP 06016944 A2 19940125 Heisei, 6  
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-194879  
19920629.

AB The title compns. with UV curability and adhesion to substrates  
comprise (a) organopolysiloxanes (OPS) containing  $\geq 2$   $\text{CH}_2\text{:CH}(\text{CH}_2)_n$   
( $n = 2-8$ ) groups/mol. 100, (b) OPS containing  $\geq 2$   
**mercaptoalkyl groups**/mol. 1-500, (c) OPS containing 1  
 $\text{CH}_2\text{:CH}(\text{CH}_2)_n$  group/mol. and/or OPS containing 1 **mercaptoalkyl**  
**group**/mol. 20-300, and (d) photosensitizers 0.1-50 parts.  
Thus, trimethylsiloxy group-terminated dimethylsiloxane-  
methylhexenylsiloxane **copolymer** (d.p. 140, containing 5  
hexenyl groups/mol.) 100, trimethylsiloxy group-terminated  
dimethylsiloxane-methylmercaptopropylsiloxane **copolymer**  
(I) (d.p. 200, containing 4 **mercaptopropyl groups**  
/mol.) 100, I (d.p. 200, containing 1 **mercaptopropyl**  
**group**/mol.) 100, and acetophenone 1 g were mixed to give the  
title composition, which was applied to a polyethylene-laminated  
paper, exposed to UV irradiation for 3 s, coated by Oribain BPS 5127  
(acrylic adhesive), heated at 70° for 2 min, bonded with a  
80-g/m<sup>2</sup> paper, and aged at 25° under 20-g/cm<sup>2</sup> load for 10 min

to give a test piece showing improved adhesion and releasability.

IC ICM C08L083-07  
ICS C08L083-08; C09J007-02  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 42  
IT **Coating materials**  
(UV-curable, siloxanes for peelable)  
IT 9002-88-4, Polyethylene  
RL: USES (Uses)  
(**lamine**te film, siloxane peelable coatings for)  
IT 157243-08-8, 31B  
RL: USES (Uses)  
(tapes, **laminated** with siloxane peelable coatings)

L130 ANSWER 45 OF 82 HCA COPYRIGHT 2005 ACS on STN

121:303150 Chemically resistant, crack-sealing epoxy **resin**  
-polyurethane coating compositions. Schmidt, Gerald; Isink, Martin  
(Ruetgerswerke AG, Germany). Ger. Offen. DE 4303124 A1 19940414, 7  
pp. (German). CODEN: GWXXBX. APPLICATION: DE 1993-4303124  
19930204. PRIORITY: DE 1992-4233860 19921008.

AB The title compns., giving coatings having good properties at  
-20°, contain epoxy **resins**, urethane prepolymers,  
and **SH group**-terminated oligomers, and are  
topcoated with flexibilized epoxy **resins**. Concrete plates  
were impregnated with 270 g/m<sup>2</sup> bisphenol F epoxy **resin**  
(I)-HS(CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>SS)8CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>SH (II) composition,  
**laminated** with a polyester fleece (200 g/m<sup>2</sup>), coated with  
1.80 kg/m<sup>2</sup> mixture of I (epoxy equivalent weight 160) 28.6, MDI-based  
isocyanate **polymer** 66.7, TiO<sub>2</sub> 3.8, SiO<sub>2</sub> 0.8, deaerating  
agent 0.1, flexible epoxy **resin curing**  
**agent** 22.8, (Me<sub>2</sub>NCH<sub>2</sub>)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>OH 11.6, II 57.0, and PhCH<sub>2</sub>OH 8.6  
parts, and topcoated with 1.73 kg/m<sup>2</sup> I-based composition to give a  
film  
with maximum crack bridging 1.2 and 0.6 mm at room temperature and  
-20°, resp., and good resistance to aromatic and aliphatic  
solvents.

IC ICM C09D163-00  
ICS C09D175-04; C09D181-04; C09D005-34; D06N003-12; E04B001-64;  
E02D031-00; E04H006-42; E01D019-08; B05D007-26; B65D090-24  
ICA C09D007-02; C09D007-12; C09D017-00  
ICI C09D163-00, C09D175-04, C09D181-04; C08L063-00, C08L075-04,  
C08L081-04  
CC 42-10 (**Coatings**, Inks, and Related Products)  
ST chem resistance coating compn; crack sealant coating compn; epoxy  
**resin** polyurethane coating; polyoxyalkylene polysulfide  
coating compn  
IT Rubber, polysulfide  
RL: TEM (Technical or engineered material use); USES (Uses)

- (Thiokol LP 3; chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Bridges  
(chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Epoxy **resins**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(topcoats; chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Coating materials  
(cold-resistant, chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Sealing compositions  
(cold-resistant, epoxy **resin**-polyurethane coatings; chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Urethane **polymers**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(epoxy, chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Polysulfides  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyoxyalkylene-, **mercaptan group**-terminated; chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Polyoxyalkylenes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polysulfide-, **mercaptan group**-terminated; chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT Epoxy **resins**, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(polyurethane-, chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)
- IT 101-68-8D, **polymers** 58421-55-9, Bisphenol F-epichlorohydrin **copolymer**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(chemical resistant, crack-sealing epoxy **resin**-polyurethane coating compns.)

L130 ANSWER 46 OF 82 HCA COPYRIGHT 2005 ACS on STN

120:192594 Stable poly(meth)acrylate-based addition **polymer** dispersions in inert organic liquid, coating materials containing the dispersions, and their use. Buter, Roelof; van Kempen, Frank; Boomgaard, Ritse Eltjo (AKZO N. V., India). Neth. Appl. NL 9200366 A 19930916, 26 pp. (Dutch). CODEN: NAXXAN. APPLICATION: NL 1992-366 19920228.

AB The addition **polymer** is formed from a copoly(meth)acrylate

and 2-20 weight% (based on addition **polymer**) **polymeric** stabilizer [number-average mol. weight 5000-200,000], of 95-99.8:0.2-5 weight ratio C4-18-alkyl(meth)acrylate-glycidyl(meth)acrylate **copolymer**, which is reacted with a compound containing a  $\geq 1:1$  equivalent ratio **mercapto group** and a 2nd functional group, which is more reactive with an epoxy **group** than the **mercapto group**. The poly(meth)acrylate consists of 2-20 weight% (based on addition **polymer**) **polymer** of (a) styrene and/or  $\alpha$ -methylstyrene and/or vinyltoluene 0-50, (b) C2-6-hydroxyalkyl (meth)acrylate 5-50, and (c) a partially crosslinked **polymer** of (1) styrene and/or  $\alpha$ -methylstyrene and/or vinyltoluene 0-50, (2) C2-6-hydroxyalkyl (meth)acrylate 5-50, (3) C1-12-alkyl (meth)acrylate containing  $\leq 40$  weight%  $C \geq 4$ -alkyl (meth)acrylate 0-94.9, and (4) a free radical-polymerizable monomer containing  $\geq 2$  ethylenically unsatd. double bonds [(0.75-1.5) + 10-2 mol-equiv double bonds/100 g crosslinked **polymer**]. The **coatings** contain (based on solids) the dispersion 5-40, acrylate, **polyester**, and/or alkyd **resin** 10-85, and compound reactive with OH groups 10-50 weight%, and are especially suitable for high-gloss metallic coatings for **automobiles**. A Bu methacrylate-2,3-epoxypropyl methacrylate 3-mercaptopropionate **copolymer** (stabilizer) was reacted with styrene, Me methacrylate, Bu acrylate, and trimethylolpropane triacrylate to give a **polymer** that was used for the dispersion of Al paste in a mixture of US-138 (HCHO-melamine **copolymer**), adipic acid-isophthalic acid-neopentyl glycol **copolymer**, Exxate 600, and xylene.

IC ICM C08F008-34

ICS C08F002-08; C08F220-18; C08F265-06; C09D005-02; C09D151-06

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 42

ST stable **polymethacrylate** dispersion; butyl methacrylate **copolymer** stabilizer; epoxypropyl methacrylate **copolymer** stabilizer; mercaptopropionate **copolymer** stabilizer; styrene **copolymer** stabilizer; methyl methacrylate **copolymer** stabilizer; acrylate **copolymer** stabilizer; hydroxyethyl acrylate **copolymer** stabilizer; allyl methacrylate **copolymer** stabilizer; trimethylolpropane triacrylate **copolymer** stabilizer; aluminum dispersion stabilizer addn **polymer**; melamine **resin** aluminum dispersion; **polyester** aluminum dispersion; adipic acid isophthalic neopentyl glycol **polyester**; xylene aluminum dispersion coating

IT Coating materials

- (poly(methacrylate)-based, for aluminum dispersions for high-gloss **base coats** for **automobile** bodies)
- IT 9003-08-1 26141-00-4, Adipic acid-isophthalic acid-neopentyl glycol **copolymer**  
RL: USES (Uses)  
(aluminum coatings containing, for high-gloss **base coats** for **automobile** bodies)
- IT 154048-64-3 154048-65-4  
RL: USES (Uses)  
(coatings, containing aluminum dispersions for high-gloss **base coats** for **automobile** bodies)
- IT 7429-90-5, Aluminum, uses  
RL: USES (Uses)  
(nonleafing dispersions of methacrylate **copolymers** and, for high-gloss **base coats** for **automobile** bodies)
- IT 154048-66-5  
RL: USES (Uses)  
(stabilizers for nonleafing aluminum dispersions for high-gloss **base coats** for **automobile** bodies)
- L130 ANSWER 47 OF 82 HCA COPYRIGHT 2005 ACS on STN  
121:11913 Antifouling marine coating compositions. Nakai, Noboru; Kishihara, Masahito; Kawashima, Takashi; Nakakita, Fumihiko (Kansai Paint Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05320540 A2 19931203 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-152755 19920519.
- AB Title compns. comprise 1-100% **resins** obtained by **polymerizing** monomers in the presence of polyoxyethylene- and mercapto-containing compds. obtained in turn by treating compds. containing polyoxyethylene chains and OH or CO<sub>2</sub>H groups (or their reaction products with compds. having  $\geq 2$  functional groups reactive with OH or CO<sub>2</sub>H) with compds. containing **mercapto groups** and other groups reactive with OH, CO<sub>2</sub>H, OH-reactive groups, or CO<sub>2</sub>H-reactive groups and optionally other water-insol. **resins** as **vehicles**. Thus, polyoxyethylene lauryl ether was treated with IPDI-**mercaptoethanol** (1:1) **adduct** in Bu acetate in the presence of dibutyltin dilaurate at 90° and the resulting **polymer** solution was added dropwise to a xylene solution containing Bu methacrylate and AIBN at 110° to give a **polymer** solution, which was applied to a steel sheet (sandblasted and coated with tar epoxy to .apprx.120  $\mu$ m thickness) to 100  $\mu$ m thickness, dried for 2 days, and immersed in sea for 6 mo without adhesion of marine organisms.
- IC ICM C09D005-14  
ICS C09D151-08



- CC 42-10 (**Coatings, Inks, and Related Products**)  
 Section cross-reference(s): 35
- ST antifouling marine polyoxyethylene mercapto **polymer**
- IT **Coating materials**  
 (antifouling, marine, acrylic **polymers** and  
 polyoxyethylene- and mercapto-containing compds. as **vehicles**  
 in)
- IT Fouling control agents  
 (coatings, marine, acrylic **polymers** and  
 polyoxyethylene- and mercapto-containing compds. as **vehicles**  
 in)
- IT Siloxanes and Silicones, uses  
 RL: USES (Uses)  
 (hydroxy-terminated, reaction products with TDI, reaction  
 products with thioglycerol, coatings containing acrylic  
**polymers** and, antifouling, marine)
- IT 9002-92-0DP, Polyoxyethylene lauryl ether, reaction products with  
 isophorone diisocyanate-**mercaptoethanol** (1:1)  
**adduct** 155833-79-7DP, reaction products with  
 polyoxyethylene lauryl ether  
 RL: PREP (Preparation)  
 (blends with poly(Bu methacrylate), coatings, preparation of,  
 antifouling, marine)
- IT 9003-21-8P, Methyl acrylate **polymer**  
 RL: PREP (Preparation)  
 (blends with polyoxyethylene mercaptopropionate, coatings,  
 preparation  
 of, antifouling, marine)
- IT 9003-63-8P, n-Butyl methacrylate **polymer**  
 RL: PREP (Preparation)  
 (blends with polyoxyethylene- and mercapto-containing compds.,  
 coatings, preparation of, antifouling, marine)
- IT 9011-15-8P, Isobutyl methacrylate **polymer**  
 RL: PREP (Preparation)  
 (blends with polyoxyethylene- and mercapto-containing siloxanes,  
 coatings, preparation of, antifouling, marine)
- L130 ANSWER 48 OF 82 HCA COPYRIGHT 2005 ACS on STN  
 118:86455 Primer compositions for concrete and mortar. Shimizu, Chuki;  
 Toba, Hisami (Toshiba Silicone Co., Ltd., Japan). Jpn. Kokai Tokkyo  
 Koho JP 04300989 A2 19921023 Heisei, 7 pp. (Japanese). CODEN:  
 JKXXAF. APPLICATION: JP 1991-66571 19910329.
- AB The compns. contain an isocyanate 100, a Si compound 0.1-30, an  
 organic  
 solvent 10-3000, and organotin or tertiary amine hardening catalyst  
 0.001-30 weight parts. The isocyanate have  $\geq 2$  isocyanate  
 groups/mol. and isocyanate equivalent  $< 200$ ; the Si compound has  $\geq 1$   
 hydrolyzable groups bonded to Si and **thiol** or isocyanate

**groups** not directly bonded to Si; and the solvent has water solubility >10 weight% at 20°, b. <120°, and contains no active H.

- IC ICM C09K003-10  
ICS C08G018-30; C09J005-02
- CC 58-2 (Cement, Concrete, and Related Building Materials)  
Section cross-reference(s): 42
- IT **Coating materials**  
(primers, isocyanate-silicon compound, compns. of, for concrete and mortar)
- IT 67-64-1, Acetone, uses 68-12-2, DMF, uses 77-58-7, Dibutyltin dilaurate 101-77-9D, **polymers** with isocyanates 109-99-9, THF, uses 121-44-8, Triethylamine, uses 123-91-1, 1,4-Dioxane, uses 141-78-6, Ethyl acetate, uses 301-10-0, Stannous octoate 4420-74-0, 3-Mercaptopropyl trimethoxysilane 9016-87-9, Sumidur 44V10 9016-87-9, **Desmodur** VL 14814-09-6, 3-Mercaptopropyl triethoxysilane 15396-00-6 24801-88-5 25656-78-4, Triphenylmethane triisocyanate 39403-53-7, **Desmodur** HL  
RL: USES (Uses)  
(primer compns. containing, for concrete and mortar)

L130 ANSWER 49 OF 82 HCA COPYRIGHT 2005 ACS on STN  
118:61709 **Catalysts** for curing of liquid polysulfide resin-isocyanate mixtures. Woollard, Clive (Morton International Ltd., UK). Eur. Pat. Appl. EP 500335 A2 19920826, 37 pp. DESIGNATED STATES: R: DE, FR, GB, IT. (English). CODEN: EPXXDW. APPLICATION: EP 1992-301347 19920219. PRIORITY: GB 1991-3670 19910221; GB 1992-91 19920103.

- AB Liquid polysulfides having **reactive SH groups** are cured with isocyanates in the presence of organometallic or metal salt **catalysts**, especially dibutyltin dilaurate (I). The cured compns. show good abrasion resistance, strength, and adhesion and are useful as sealants, adhesives, etc. A polysulfide (LP-32C) prepared from Na polysulfide and H<sub>2</sub>C(OCH<sub>2</sub>CH<sub>2</sub>Cl)<sub>2</sub> was mixed (100 parts) with 8 parts Suprasec VM021 (containing 23% NCO) at isocyanate index 105 and with 2 parts I to

give  
a composition which had pot life 15 min and cured during 2.5 h to  
give a  
crosslinked brown **resin**.

- IC ICM C08G018-24  
ICS C08G018-50; C09D175-04
- CC 42-11 (**Coatings, Inks, and Related Products**)  
Section cross-reference(s): 37, 39
- ST tin **catalyst** crosslinking isocyanate polysulfide
- IT Crosslinking **catalysts**  
Vulcanization accelerators and agents

(dibutyltin dilaurate, for isocyanate-polysulfide mixts.)

IT Rubber, polysulfide  
 RL: USES (Uses)  
 (isocyanate-cured, manufacture of, **catalysts** for)

IT **Coating materials**  
 Sealing compositions  
 (isocyanate-polysulfide mixts., curing **catalysts** for)

IT Adhesives  
 (heat-resistant, isocyanate-polysulfide mixts., curing **catalysts** for)

IT 77-58-7  
 RL: CAT (Catalyst use); USES (Uses)  
 (**catalysts**, for curing of isocyanate-polysulfide mixts.)

IT 145446-08-8P 145566-68-3P 145566-69-4P 145566-70-7P  
 145566-71-8P 145566-72-9P  
 RL: PREP (Preparation)  
 (manufacture of crosslinked, **catalysts** for)

L130 ANSWER 50 OF 82 HCA COPYRIGHT 2005 ACS on STN

117:235105 Bisphenol A diglycidyl ether pre-extended with mercaptans.  
 Hofer, Arnold; Wolf, Jean Pierre; Schneider, Hildegard; Wegmann,  
 Alex (Ciba-Geigy A.-G., Switz.). Ger. Offen. DE 4141858 A1  
 19920625, 10 pp. (German). CODEN: GWXXBX. APPLICATION: DE  
 1991-4141858 19911218. PRIORITY: CH 1990-4080 19901221.

AB **Resins** with low viscosity and good reactivity are prepared  
 by extending bisphenol A diglycidyl ether (I) and/or its oligomers  
 with 0.01-0.2 equivalent aliphatic mercaptan or mercapto acid and  
 then with  
 bisphenol A at 100-250° in the presence of quaternary  
 ammonium salts. Thus, heating 350 g I (epoxy equivalent 5.40/kg) with  
 7.5 g HSCH<sub>2</sub>CH<sub>2</sub>(OCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>SH and 0.14 g 1-ethyl-1-methylpiperidinium  
 iodide from 100 to 170°, adding 179 g bisphenol A slowly, and  
 heating at 180° for 2.5 h gave a **resin** (epoxy  
 equivalent 0.43/kg), a 50% solution of which had viscosity 2.55 Pa-s  
 at  
 25°, and 3.06 Pa-s (at 40°) after 30 days. The use of  
 the extended **resins** in coatings (e.g. for cans) is  
 exemplified.

IC ICM C08G059-14

ICS C08G059-06; C08L063-02; C09D163-02; C09D175-04

ICA C08G059-66; C08G018-58; C08J005-00; C09J163-02; C09J175-04

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 42

ST epoxy **resin** extension mercaptan; mercapto acid extension  
 epoxy; coating epoxy **resin** extended; can coating epoxy  
**resin**; ethylenedioxydiethanethiol extension epoxy  
**resin**; **catalyst** extension epoxy **resin**;

- quaternary ammonium **catalyst** extension
- IT Quaternary ammonium compounds, uses  
RL: CAT (Catalyst use); USES (Uses)  
(**catalysts**, for extension of epoxy **resins** by  
thiols)
- IT Cans  
(coatings for, thiol-extended epoxy **resins** for)
- IT **Coating materials**  
(mercaptan-extended epoxy **resins** for use in, manufacture of)
- IT Addition reaction **catalysts**  
(quaternary ammonium salts, for mercaptans with epoxy  
**resins**)
- IT Carboxylic acids, compounds  
RL: PROC (Process)  
(mercapto, reaction products, with epoxy **resins**, manufacture  
of, for use in coatings)
- IT Epoxy **resins**, preparation  
RL: PREP (Preparation)  
(polyoxyalkylene-, manufacture of, for use in coatings)
- IT Polysulfides  
RL: USES (Uses)  
(**reaction** products, **thiol group**  
-terminated, with epoxy **resins**, manufacture of,  
for use in coatings)
- IT Thiols, compounds  
RL: PROC (Process)  
(reaction products, with epoxy **resins**, manufacture of, for  
use in coatings)
- IT Epoxy **resins**, compounds  
RL: PROC (Process)  
(reaction products, with thiols, manufacture of, for use in  
coatings)
- IT 75-57-0, Tetramethylammonium chloride 1643-19-2,  
Tetrabutylammonium bromide 3333-08-2, 1,1-Dimethylpiperidinium  
iodide 4186-71-4, 1-Ethyl-1-methylpiperidinium iodide  
24307-26-4, 1,1-Dimethylpiperidinium chloride  
RL: CAT (Catalyst use); USES (Uses)  
(**catalysts**, for extension of epoxy **resins** by  
thiols)
- IT 68-11-1DP, Mercaptoacetic acid, reaction products with epoxy  
**resins** 107-96-0DP, 3-Mercaptopropionic acid, reaction  
products with epoxy **resins** 1191-43-1DP,  
1,6-Hexanedithiol, reaction products with epoxy **resins**  
14970-87-7DP, reaction products with epoxy **resins**  
25068-38-6DP, reaction products with thiols and mercapto acids  
25190-06-1DP, Polytetramethylene glycol, **thiol**  
**group**-terminated, **reaction** products with epoxy  
**resins** 25322-68-3DP, Polyethylene glycol, **thiol**

group-terminated, **reaction** products with epoxy  
**resins** 30247-98-4DP, 5-Mercaptopentanoic acid, reaction  
products with epoxy **resins** 71310-21-9DP,  
11-Mercaptoundecanoic acid, reaction products with epoxy  
**resins**

RL: PREP (Preparation)

(manufacture of, for use in coatings)

L130 ANSWER 51 OF 82 HCA COPYRIGHT 2005 ACS on STN

116:176276 Methylolated melamine **resin**-containing  
thermosetting coating compositions. Kamata, Kazunori; Nakahata,  
Shigeru; Sakamoto, Katsumi; Isobe, Yoko; Nakajima, Tatsunobu;  
Kageyama, Gakushi (Mitsui Toatsu Chemicals, Inc., Japan). Jpn.  
Kokai Tokkyo Koho JP 03273072 A2 19911204 Heisei, 8 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1990-194753 19900725. PRIORITY: JP  
1990-31374 19900214.

AB Low-temperature-curable thermosetting compns. giving water-resistant,  
glossy coating films contain **vehicles** composed of 5-50%  
alkyl etherified methylolmelamine **resins** containing 2-6 bonded  
HCHO,  $\geq 0.5$  and  $< 3.5$  Et ether group, Pr ether group, or their  
mixed ether groups, 1.0-4.0 Bu ether group, and 0.5-3.0 imino group  
or methylol group, or their mixed groups per melamine ring and 5-95%  
(A) vinyl **copolymers** composed of vinyl monomers containing  
 $\geq 1$  of OH, CO<sub>2</sub>H, glycidyl, (alkoxy)methylolamido, and  
**SH group** and other vinyl monomers, (B) OH- and/or  
CO<sub>2</sub>H-containing alkyd **resins** and/or polyester **resins**  
, A-B mixture, or A-B reaction product. Thus, melamine, BuOH, and  
paraformaldehyde were mixed, adjusted to pH 4.0 by aqueous HCO<sub>2</sub>H,  
refluxed, treated with Me<sub>2</sub>CHOH, evaporated, diluted with BuOH to  
solids

content .apprx.80% to give a **resin** (I) containing bonded HCHO  
5.10, iso-Pr ether group 2.30, Bu ether group 1.60, methylol group  
1.15, imino group 0.85, and methylene group 0.60 per melamine ring.  
A composition containing I 37.5, Almatex 785-5 (acrylic **resin**) 140,  
and TiO<sub>2</sub> 100 g was spread on Zn phosphate-treated plates at dry  
thickness 30  $\mu$ m and heated at 140° to give coating films  
with good resistance to water, boiling water, and xylene, which  
showed (JIS K5400 6.7) gloss 92%, and pencil hardness 3H.

IC ICM C09D161-28

ICS C09D167-02; C09D167-08

CC 42-10 (**Coatings**, Inks, and Related Products)

ST vinyl **polymer** blend thermosetting coating; alkyd  
**resin** blend coating thermosetting; polyester blend coating  
thermosetting; crosslinking agent melamine **resin** coating;  
acrylic thermosetting coating; water resistant thermosetting  
coating; glossy thermosetting coating

IT Crosslinking agents

(alkylated methylolmelamines, for vinyl **polymers** or

polyesters or alkyd **resins** in low-temperature-curable coatings)

IT Alkyd **resins**

Polyesters, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, containing methylolmelamine **resins**, glossy thermosetting waterproof)

IT Coating **materials**

(cold-curable, glossy, water-resistant, containing alkylated methylolmelamine **resins** and vinyl **polymers** or polyesters or alkyd **resins**)

L130 ANSWER 52 OF 82 HCA COPYRIGHT 2005 ACS on STN

116:90075 Weather-resistant, high-hardness inorganic coatings for hardened, extruded inorganic articles. Seto, Kazuo; Suikyo, Masahiro; Shimada, Yukio; Shimizu, Chuki; Nagaoka, Hisayuki (Matsushita Electric Works, Ltd., Japan; Toshiba Silicone Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 03223189 A2 19911002 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-17388 19900126.

AB The articles are coated with a primer containing an epoxy compound containing

$\geq 2$  epoxy groups/mol 100, organic Si compound having  $\geq 1$

**mercapto groups** and  $\geq 2$  alkoxy groups/mol

0-500, and  $\text{Ti}(\text{OR})_4$  (R = C1-6-hydrocarbon residue) 5-200 weight parts, and then with a top coat containing a Si alkoxide-based

**coating material** having general formula  $\text{R}_1\text{nSi}(\text{OR}_2)_{4-\text{n}}$  ( $\text{R}_1$  = Me or Et;  $\text{R}_2$  = C1-4-alkyl;  $\text{n} = 0, 1, \text{ or } 2$ ). An extruded product, manufactured from a mixture containing portland cement, sand,

asbestos, molding

aid, pulp, and siliceous stone, was coated with a **polymer** containing bisphenol-A diglycidyl ether 100,  $\gamma$ -mercaptopropyl ethoxysilane 300, tetrabutyl titanate 100, xylene 100, and tetramethoxysilane 100 parts, dried, coated with a mixture containing

Me

trimethoxysilane 100, tetraethoxysilane 20, colloidal  $\text{SiO}_2$  105, dimethyldimethoxysilane 5, and  $\text{Me}_2\text{CHOH}$  100 parts, and cured. It had high resistance to water, freezing, and weathering.

IC ICM C04B041-71

ICS C04B041-64

CC 58-3 (Cement, Concrete, and Related Building Materials)

Section cross-reference(s): 42

IT Epoxides

RL: USES (Uses)

(C6-8-alkyl, reaction products with  $\gamma$ -mercaptopropyltrimethoxysilane, primers containing, for weather-resistant siloxane-based top coating on extruded cement products)

IT Pulp, cellulose

Asbestos

RL: USES (Uses)

(extruded cement products containing, primers and siloxane-  
**based top coatings** for, for weather resistance  
and hardness)

IT Mortar

(extruded, primers and siloxane-**based top  
coatings** for, for weather resistance and hardness)

IT **Coating materials**

(siloxane-**based**, weather-resistant, on extruded cement  
products)

IT Cement

(portland, extruded cement products containing, primers and  
siloxane-  
**based top coatings** for, for weather resistance  
and hardness)

IT **Coating materials**

(primers, epoxide-containing, for weather-resistant siloxane-  
**based top coating** on extruded cement products)

IT Stone

RL: USES (Uses)

(siliceous, extruded cement products containing, primers and  
siloxane-**based top coatings** for, for weather  
resistance and hardness)

IT 1675-54-3D, reaction products with  $\gamma$ -

mercaptopropyltrimethoxysilane 4420-74-0D,  $\gamma$ -

Mercaptopropyltrimethoxysilane, reaction products with bisphenol A  
glycidyl ether

RL: USES (Uses)

(primers containing, for weather-resistant siloxane-**based  
top coatings** on extruded cement products)

IT 9004-34-6.

RL: USES (Uses)

(pulp, extruded cement products containing, primers and siloxane-  
**based top coatings** for, for weather resistance  
and hardness)

L130 ANSWER 53 OF 82 HCA COPYRIGHT 2005 ACS on STN

116:112306 Weather-resistant, high-hardness, inorganic coatings for  
aerated lightweight concrete. Seto, Kazuo; Suikyo, Masahiro;  
Shimada, Yukio; Shimizu, Chuki; Nagaoka, Hisayuki (Matsushita  
Electric Works, Ltd., Japan; Toshiba Silicone Co., Ltd.). Jpn.  
Kokai Tokkyo Koho JP 03223188 A2 19911002 Heisei, 13 pp.  
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-17387 19900126.

AB Aerated lightwt. concrete is coated with a primer and a layer of an  
inorg. material containing Si alkoxides having general formula  
 $R_1nSi(OR_2)_{4-n}$  ( $R_1 = Me$  or  $Et$ ;  $R_2 = C1-4-alkyl$ ;  $n = 0, 1$  or  $2$ ) and/or  
their partial hydrolyzates. The primer comprises isocyanate

prepolymer having  $\geq 2$  isocyanate groups/mol 100, organic Si compound having  $\geq 1$  **mercapto group** and  $\geq 2$  alkoxy groups/mol 1-100, plasticizer 5-100, epoxy **resin**-modified silicone **resin** and/or epoxy **resin**-silicone **resin** mixture 0-100, and organic Sn compound and/or organic acid Sn salt 0.01-30 weight parts. Aerated lightwt.

concrete was coated with a primer consisting of isocyanate prepolymer 100, dioctyl phthalate 20, epoxy **resin**-modified silicone **resin** 20,  $\gamma$ -mercaptopropyltrimethoxysilane 12, dibutyltin dilaurate 0.5, and Et acetate 30 weight parts, and with a mixture consisting of methyltrimethoxysilane 100, tetraethoxysilane 20, colloidal SiO<sub>2</sub> 105, dimethyldimethoxysilane 5, and Me<sub>2</sub>CHOH 100 weight parts, and baked at 150° for 1 h. The coating strongly adhered to the concrete and had high resistance to weathering and freezing.

IC ICM C04B041-71

ICS C04B041-64

CC 58-2 (Cement, Concrete, and Related Building Materials)  
Section cross-reference(s): **42**

IT **Coating materials**

(siloxane-containing, for **polymeric** coatings on aerated lightwt. concrete, for weather-resistance)

IT Alkanes, uses

RL: MOA (Modifier or additive use); USES (Uses)

(chloro, plasticizers, primers containing, for weather-resistant siloxane-**based** top **coatings** on aerated lightwt. concrete)

IT Concrete

(lightwt., aerated, primers and siloxane-**based** top **coatings** for, for weather and freeze resistance)

IT 117-84-0, Di-n-octyl phthalate 142-77-8, Butyl oleate 12645-31-7, 2-Ethylhexyl phosphate

RL: MOA (Modifier or additive use); USES (Uses)

(plasticizer, primers containing, for weather-resistant siloxane-**based** top **coatings** on aerated lightwt. concrete)

IT 3779-63-3 4035-89-6 67873-91-0 123085-16-5 139184-52-4

RL: USES (Uses)

(primers containing, for weather-resistant siloxane-**based** top **coating** on aerated lightwt. concrete)

IT 77-58-7, Dibutyltin dilaurate 818-08-6, Dibutyltin oxide

RL: USES (Uses)

(primers containing, for weather-resistant siloxane-**based** top **coatings** on aerated lightwt. concrete)

L130 ANSWER 54 OF 82 HCA COPYRIGHT 2005 ACS on STN

115:185528 Water-thinned coatings for poly(vinyl chloride). Shinohara,



Hideichiro; Tanii, Ichiro; Iida, Shuichi (Nisshin Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03126735 A2 19910529 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-266044 19891012.

- AB Antiblocking and antisoiling title coatings comprise emulsions obtained by emulsion-polymerizing 100 parts mixture of 5-95%  $XO(SiR_1R_2O)_m(SiYR_3S)_nX$  (I;  $R_1-3 = C_1-20$  hydrocarbyl, halohydrocarbyl; Y = organic group containing radical-**reactive group** and/or **SH**; X = H, lower alkyl,  $R_1R_2R_4Si$ ;  $R_4 = R_1$ , Y;  $m \leq 10,000$ ;  $n \geq 1$ ) as oil-in-water emulsion and 5-95% mixed monomers of 70-99%  $H_2C:CR_5CO_2R_6$  (II;  $R_5 = H, Me$ ;  $R_6 = C_1-18$  alkyl, alkoxyalkyl), 1-20% monomers from ethylenic unsatd. amides, hydroxyalkyl- or alkoxyalkyl-substituted ethylenic unsatd. amides, ethylenic monomers containing oxirane, OH,  $CO_2H$ , amino, sulfonic acid, phosphoric acid, polyoxyalkylene, or quaternary ammonium **group**, full **esters** of polyhydric alcs. and (meth)acrylic acids, dibasic acid diallyl esters, allyl (meth)acrylates, and divinylbenzene, and 0-20% other monomers in the presence of a radical polymerization initiator. Thus, Bu acrylate 167, Et acrylate 167, methacrylic acid 5.5, and acrylic acid 10.5 parts were emulsion-polymerized in the presence of 150 parts siloxane obtained from a 1500:3.8 mixture of octamethylcyclotetrasiloxane and methacryloyloxypropylmethyilsiloxane, tert-Bu hydroperoxide, l-ascorbic acid, and  $FeSO_4$  at  $30^\circ$  to give an emulsion with 39-40% solids, 195 parts of which was mixed with 50 parts Metolose 60SH50 and 754 parts deionized water to give a coating material. A PVC wallpaper coated with the composition at 10 g/m<sup>2</sup>, dried at  $105^\circ$ , and then foamed by heating at  $220^\circ$  was antisoiling against marking inks, crayon, and shoe polishes and antiblocking with good adhesion while a control containing Vinyblan 380 (PVC emulsion) in place of the copolymer emulsion was antiblocking but less antisoiling.
- IC ICM C08J007-04  
ICS C09D004-00; C09D004-02; C09D151-08; C09D183-07; C09D183-08
- ICA C08F283-12  
ICI C08L051-00
- CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 35
- IT **Coating materials**  
(antisoiling, water-thinned, siloxane-acrylic copolymers, for PVC wallpaper, antiblocking)

L130 ANSWER 55 OF 82 HCA COPYRIGHT 2005 ACS on STN  
116:257485 Thermosetting coating compositions containing blocked hydroxy

and(or) thiol compounds and their manufacture. Ishidoya, Masahiro; Shibato, Kishio; Komoto, Keiji; Shibamoto, Kenji; Nakane, Yoshinori (Nippon Oil and Fats Co., Ltd., Japan). Eur. Pat. Appl. EP 452841 A2 19911023, 60 pp. DESIGNATED STATES: R: BE, DE, ES, FR, GB, IT, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1991-105947 19910415. PRIORITY: JP 1990-103888 19900419; JP 1990-259696 19900928; JP 1990-292659 19901030; JP 1991-100534 19910405.

AB Storage-stable compns., useful for thermosetting coatings with good chemical, weather, and impact resistance, contain compds. having  $\geq 2$  OH and(or) **SH groups** blocked by a vinyl ether compound, a vinyl thioether compound, or a heterocyclic compound having a vinyl-type double bond and O or S as heteroatom, a compound having  $\geq 2$  groups reactive with the blocked OH and(or) **SH group** and a thermal **latent acid catalyst**. The blocked OH and(or) **SH groups** and the groups reactive with these latter groups can be on the same mol., and addnl. compds. having the blocked OH and(or) **SH groups** and compds. having groups reactive with these groups may also be present. Thus, a composition containing 618.2:1279.4 3,4-dihydro-2 H-pyran-polycaprolactone polyol adduct 26.7, 20:28.73:22.4:28.87 Bu methacrylate-2-ethylhexyl acrylate-itaconic acid anhydride-Me methacrylate **copolymer** 100, TiO<sub>2</sub> 61.4, Modaflow 0.2, 10% p-toluene sulfonic acid **catalyst** 2, 10% C<sub>5</sub>H<sub>5</sub>N 1, xylene 10, and BuOAc 2 parts exhibited viscosity 1.0 and 1.1 P before and after 30 days at 50°, resp., and was cured 30 min at 120° on a steel plate to give an acid- and impact-resistant coating with Knoop hardness 10 and 60° gloss 82% after 1000-3000 h in a Sunshine weather-o-meter.

IC ICM C08L101-02

ICI C08L101-02

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 37

ST storage stable thermosetting coating; weather resistance thermosetting coating; chem resistance thermosetting coating; impact resistance thermosetting coating; hydroxy compd blocked thermosetting coating; thiol compd blocked thermosetting coating; polycaprolactone polyol hydropyran adduct coating; methacrylate **copolymer** thermosetting coating; acrylate **copolymer** thermosetting coating; itaconic anhydride **copolymer** thermosetting coating; toluene sulfonic **latent crosslinking catalyst** coating

IT Crosslinking **catalysts**

(**latent**, acetic, for crosslinking compds. having blocked OH and(or) **SH groups** in thermosetting coatings)

IT **Coating materials**

(thermosetting, storage-stable, containing compds. having blocked

OH

- and(or) **SH groups**, with good chemical and weather and impact resistance)
- IT 298-07-7, Bis(2-ethylhexyl)phosphate 24057-28-1 128606-62-2,  
Vesturit BL 1203 136842-11-0 139984-13-7 139984-15-9  
RL: CAT (Catalyst use); USES (Uses)  
(**catalysts, latent**, for crosslinking compds. having blocked OH and(or) **SH groups** with **reactive** compds. in thermosetting coatings)
- IT 28292-92-4P 34649-63-3P 128941-15-1P  
RL: PREP (Preparation)  
(manufacture and **polymerization** with (meth)acrylate esters)
- IT 139957-71-4P  
RL: PREP (Preparation)  
(manufacture and **polymerization** with trimethylolpropane)
- IT 1028-12-2P, 1-Methylheptyl p-toluenesulfonate 2307-69-9P  
139972-40-0P  
RL: PREP (Preparation)  
(manufacture of, for **latent catalysts** for crosslinking compds. having blocked OH and(or) **SH groups** with **reactive** compds. in thermosetting coatings)
- IT 62695-06-1P 139957-62-3P 139957-63-4P 139957-64-5P  
139957-65-6P 139957-72-5P  
RL: PREP (Preparation)  
(manufacture of, for storage-stable thermosetting coating compns. containing compds. having blocked OH and(or) **SH groups**)
- IT 77-99-6DP, reaction products with dihydropyranomethyl dihydropyranocarboxylate and Pr vinyl ether 109-53-5DP, Isobutyl vinyl ether, reaction products with polyols 109-92-2DP, reaction products with polyester diol 110-87-2DP, 3,4-Dihydro-2H-pyran, reaction products with polycaprolactone 126-30-7DP, reaction products with methoxy siloxane and dihydropyran 764-47-6DP, Propyl vinyl ether, reaction products with polyols 3540-36-1DP, reaction products with trimethylolpropane and Pr vinyl ether 24980-41-4DP, Caprolactone **homopolymer**, diols, reaction products with unsatd. ethers 25248-42-4DP, Polycaprolactone, diols, reaction products with unsatd. ethers 54735-63-6DP, Placel 305, reaction products with unsatd. ethers 111310-09-9DP, K-Flex 188-50, reaction products with Et vinyl ether 131715-70-3DP, Flexorez UD-320, reaction products with Et vinyl ether 138636-57-4DP, Placel E 488, reaction products with Et vinyl ether 139957-60-1P 139957-61-2P 139957-67-8P 139957-68-9P 139980-29-3P  
RL: PREP (Preparation)  
(manufacture of, for storage-stable thermosetting coating compns. containing reactive compds.)

L130 ANSWER 56 OF 82 HCA COPYRIGHT 2005 ACS on STN

- 115:258435 Aqueous dispersions of hybrid polymers and coatings therefrom. Buter, Roelof; Roelofs, Andreas Henricus Johannes; Wemmenhove, Aletta (AKZO N. V., Neth.). Eur. Pat. Appl. EP 445863 A1 19910911, 21 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1991-200398 19910226. PRIORITY: EP 1990-200518 19900306.
- AB The title polymers comprise (A) SH-containing poly(epoxy esters) cores prepared from epoxy-ended poly(epoxy esters) and **thiols** containing **groups reactive** (more than the **SH groups**) to the **epoxy groups**, and (B) addition polymers shells which have acid number 20-100, and are grafted (at least one of B) on A by addition polymerization of monomers in the presence of A. Thus, a 36.8% composition of H2O 7, Cymal 327 10.2, and 37% dispersion [89-nm polymer prepared from acrylic acid, styrene, Cardura E, and reaction product of Epikote 828, 3-mercaptopropionic acid, and Pripol 1009 (dimerized fatty acids)] was sprayed on a phosphated steel panel and baked at 140° for 0.5 h to give a 40-µm film with 60° gloss 102%, Persoz hardness 211 s, and Erichsen indentation test 8.3 mm (≥6 means flexible coatings).
- IC ICM C08F283-10  
ICS C09D151-08
- CC 42-10 (**Coatings**, Inks, and Related Products)
- IT **Coating materials**  
(flexible, glossy, hybrid polymer dispersions for, acrylic styrene grafted mercapto poly(epoxy esters) as)
- L130 ANSWER 57 OF 82 HCA COPYRIGHT 2005 ACS on STN
- 113:60911 Photocurable polythiol compositions and their use in **laminating** transparent materials. Totani, Hideki; Fukutaka, Eitaro (Denki Kagaku Kogyo K. K., Japan). Jpn. Kokai Tokkyo Koho JP 02032157 A2 19900201 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-179191 19880720.
- AB Water-resistant title compns. useful as adhesives, coatings, sealants, etc. which can be made highly viscous for application in thick layers, comprise **SH group**-containing **polymers** having no ester linkages, polyenes having no ester linkages, and photopolymer. initiators. Thus, 947 g triglycol dimercaptan (I) and 553 g bisphenol A epoxide were stirred in presence of 1.2 g 2,4,6-tris(dimethylaminomethyl)phenol at 150° for 8 h to give a product (II) having **SH group** content 4.3 mmol/g. II was mixed with triallyl isocyanurate (SH/vinyl mol ratio 1:1), then with benzyl di-Me ketal (initiator) to give a composition with viscosity 700 cP, which was poured

into a polyethylene cup and cured by UV irradiation to give a product showing Shore A hardness 55 initially and 55 after 40 days at 70° and 80% humidity. A product prepared similarly using I instead of II had viscosity <20 cP.

- IC ICM C08L081-02
- ICS B32B007-02; B32B007-12; C08K005-01; C09J181-02
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37, 42, 74
- ST polyene crosslinking agent polythiol adhesive; photocurable polyene polythiol waterproof adhesive; moisture resistance adhesive polyene polythiol; transparent **lamine** adhesive polyene polythiol
- IT Glass, oxide  
RL: USES (Uses)  
(**laminates**, moisture-resistant photocurable adhesives for, viscous polyene-crosslinked polythiol compns. as)
- IT Transparent materials  
(**lamination** of, moisture-resistant photocurable adhesives for, viscous polythiol/polyene mixts. as)
- IT Water-resistant materials  
(adhesives, photocurable, viscous polythiol mixts. with polyenes, for transparent **laminates**)
- IT **Polymers**, uses and miscellaneous  
RL: USES (Uses)  
(mercapto-terminated, viscous mixts. with polyene crosslinking agents and photoinitiators, for moisture-resistant adhesives and sealants)
- IT **Coating materials**  
(photocurable, water-resistant, viscous polythiol mixts. with polyenes, applicable in thick coats)
- IT Adhesives  
(photocurable, water-resistant, viscous polythiol mixts. with polyenes, for transparent **laminates**)
- IT Epoxy **resins**, compounds  
RL: USES (Uses)  
(reaction products, with polythiols, viscous mixts. with polyenes, moisture-resistant photocurable adhesives for transparent **laminates**)

L130 ANSWER 58 OF 82 HCA COPYRIGHT 2005 ACS on STN

112:22455 UV-curable **polyacrylate** coatings with good adhesion to glass optical fibers. Bishop, Timothy E. (Desoto, Inc., USA). U.S. US 4849462 A 19890718, 4 pp. Cont.-in-part of U.S. Ser. No. 550,442, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1988-140725 19880104. PRIORITY: US 1983-550442 19831110.

AB The title coatings, resistant to moisture, contain **polyurethane** acrylates, photoinitiators, and 0.5-5% polyalkoxysilanes bearing 1 **SH group** which undergoes addition to acrylate double bonds. Thus, a mixture of

oligourethane acrylate 75.7, trimethylolpropane triacrylate 9.0, (ethoxyethoxy)ethyl acrylate 12.4, PhCOC(OMe)2Ph 0.4, and Ph2CO 2.5 parts containing 1.0% (MeO)3Si(CH2)3SH (I) gave a coating on glass with 180° peel adhesion 604 and 245 g/in. after 0 and 24 h, resp., at 25° and 95% relative humidity; vs. 24 and 11, resp., without I, and 123 and 71, resp., with (EtO)3Si(CH2)3NH2 in place of I.

IC ICM C08F002-50

ICS C08F020-36; C08F130-08; G02B006-00

NCL 522097000

CC 42-7 (Coatings, Inks, and Related Products)

Section cross-reference(s): 57

ST optical fiber coating photocurable; coupler coating optical fiber; mercaptosilane coupler coating; **polyurethane** acrylate coating fiber; glass optical fiber coating

IT Coupling agents

(mercaptosilanes, for photocurable **polyurethane** acrylate coatings on glass optical fibers)

IT Coating materials

(photocurable, water-resistant, **polyurethane** acrylates, for optical fibers, couplers for)

IT 4420-74-0, 3-(Trimethoxysilyl)-1-propanethiol

RL: USES (Uses)

(couplers, for **polyurethane** acrylate coatings for optical fibers)

L130 ANSWER 59 OF 82 HCA COPYRIGHT 2005 ACS on STN

107:79655 Adhesion method of transparent polymers. Hayashi, Yukio; Ono, Kiyoshi; Fujita, Katsuto (Sunstar Engineering Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62004728 A2 19870110 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-143340 19850629.

AB Transparent plastic windows are adhered with excellent weatherability to auto bodies by carbon black-containing organosilane primers and then with polyisocyanate primers, and moisture-curable **polyurethane** sealing materials. Thus, 236 g 10%  $\gamma$ -glycidoxypropyltrimethoxysilane in MEK and 206 g 10% N-( $\beta$ -aminoethyl)- $\gamma$ -aminopropylmethyldimethoxysilane in MEK were mixed and left at room temperature for 20 h to give a solution (A).

To a mixture of trimethylhexamethylene diisocyanate (I) and Sn octoate, 0.35 equivalent (based on I)  $\gamma$ -mercaptopropyltrimethoxysilane was added dropwise at 93-99° and the mixture was stirred at 80-85° for  $\geq 60$  min to give a solution (B). A transparent acrylic polymer was sprayed with organosilane primer comprising 100 parts solution A, 10 parts solution B,

10 parts carbon black, and 5 parts **polyacrylate**, dried,

coated with polyisocyanate primer (C) comprising 1:1 Desmodur RF and AcOEt, dried, coated with Betaseal 551 (**polyurethane** sealing composition), and cured at room temperature for 7 days to give test pieces which had good adhesion and weatherability, vs. poor adhesion for a control prepared similarly but no coating with primer C.

IC ICM C08J005-12  
ICS C09J005-02

ICA C08J007-04

CC 42-10 (**Coatings**, Inks, and Related Products)

ST transparent acrylic substrate adhesion weatherability; primer carbon contg organosilane; polyisocyanate primer acrylic substrate; **polyurethane** sealing adhesion acrylic polymer; automobile window polymer adhesion weatherability

IT **Urethane polymers**, uses and miscellaneous  
RL: USES (Uses)  
(sealants, for adhesion of transparent polymers to plastic auto bodies, primers for)

IT Sealing compositions  
(moisture-curable, weather-resistant, **polyurethanes**, for adhesion of transparent polymers to plastic autobodies, primers for)

IT 2530-83-8D, reaction product with N-( $\beta$ -aminoethyl)- $\gamma$ -aminopropylmethyldimethoxysilane 3069-29-2D, N-( $\beta$ -Aminoethyl)- $\gamma$ -aminopropylmethyldimethoxysilane, reaction product with  $\gamma$ -glycidoxypentyltrimethoxysilane 4420-74-0D,  $\gamma$ -Mercaptopropyltrimethoxysilane, reaction product with trimethylhexamethylene diisocyanate 15646-96-5D, 2,4,4-Trimethylhexamethylenediisocyanate, reaction product with  $\gamma$ - **mercaptopropyltrimethoxysilane** 16938-22-0D, 2,2,4-Trimethylhexamethylenediisocyanate, reaction product with  $\gamma$ - **mercaptopropyltrimethoxysilane**  
RL: USES (Uses)  
(primers, **containing** carbon black, for adhesion of transparent polymers to plastic auto bodies)

L130 ANSWER 60 OF 82 HCA COPYRIGHT 2005 ACS on STN  
107:24896 Coatings with linear boundaries on transparent substrates. Nagata, Takeshi; Hayashi, Yukio; Fujita, Katsuto (Sunstar, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 61287476 A2 19861217 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-129668 19850613.

AB Colored nonspreading compns. for stripe coatings on transparent plates contain 0.5-10% hydrophobic anhydrous silica. Thus, a mixture containing a 10%  $\gamma$ -glycidoxypentyltrimethoxysilane-N- $\beta$ -(aminoethyl)- $\gamma$ -aminopropylmethyldimethoxysilane reaction product-MEK solution 100, a  $\gamma$ - **mercaptopropyltrimethoxysilane**-trimethylhexamethylene diisocyanate **adduct** 10, carbon black 10, an acrylic **polymer** 5, and Aerosil R202

(ultrahydrophobic anhydrous silica) 3 parts gave a stripe with defined boundaries on a **car** window.

- IC ICM B05D005-06  
ICS B05D007-00; B05D007-02; B05D007-24; C03C017-32  
CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 57  
ST glycidylpropyltrimethoxysilane adduct stripe coating glass;  
aminoethylaminopropylmethyldimethoxysilane adduct stripe coating  
glass; silica stripe coating glass; stripe coating nonspreading  
glass; methylhexamethylene diisocyanate adduct coated glass;  
**mercaptopropyltrimethoxysilane adduct stripe**  
coating glass; acrylic stripe coating glass  
IT **Coating materials**  
(diisocyanate-silane-acrylic **polymer**-silica,  
nonspreading, for stripes on glass)  
IT Windshields  
(stripe coatings for, nonspreading, acrylic **polymer**  
-diisocyanate-silane-silica compns. for)  
IT Glass, oxide  
RL: USES (Uses)  
(stripe coatings for, nonspreading, diisocyanate-silane-acrylic  
**polymer**-silica compns. for)

L130 ANSWER 61 OF 82 HCA COPYRIGHT 2005 ACS on STN  
106:103926 Radiation-curable compositions. Seko, Kenji; Kinaga,  
Yoshimasa; Nakai, Noboru (Kansai Paint Co., Ltd., Japan). Jpn.  
Kokai Tokkyo Koho JP 61179232 A2 19860811 Showa, 10 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1985-18626 19850204.

- AB Mixts. of polyisocyanate derivs. having  $\geq 2$   $\text{NHCO}_2\text{ZSH}$  groups (Z  
= C1-14 alkylene) and ethylenically unsatd. monomers, optionally  
containing other compds. containing  $\geq 1$  **SH groups**  
/mol. and/or ethylenically unsatd. **polymers**, are useful as  
radiation-curable binders in coating materials and inks and as  
adhesives. Thus, 550 parts caprolactone **polymer** (mol. weight  
550) and 383 parts tolylene diisocyanate were mixed at 80°,  
cooled to 70°, mixed with 0.5 part hydroquinone and 187 parts  
 $\text{HOCH}_2\text{CH}_2\text{SH}$ , stirred 5 h at 80°, and cooled to give a  
polyurethane which (50 parts) was mixed with 50 parts  
trimethylolpropane triacrylate. The mixture was coated (100  $\mu$ ) on  
a printed paper-plywood **laminat**e and irradiated with an  
electron beam (3 Mrad) to give a hard glossy coating.

- IC ICM C08G075-04  
ICA C09D003-49; C09D005-00; C09D011-10; C09J003-16  
CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 38  
IT Urethane **polymers**, uses and miscellaneous  
RL: USES (Uses)  
(thiol-terminated, radiation-curable compns. containing)



## IT Adhesives

## Coating materials

## Inks

(radiation-curable, containing ethylenically unsatd. compds. and thiol-terminated polyurethanes)

- IT 502-44-3D, Caprolactone, **polymers** with diisocyanates, mercaptoethanol, and polyols 818-61-1D, 2-Hydroxyethyl acrylate, **polymers** with diisocyanates, mercaptoethanol, and polyols 13048-33-4D, 1,6-Hexanediol diacrylate, **polymers** with diisocyanates, mercaptoethanol, and polyols 15625-89-5D, Trimethylolpropane triacrylate, **polymers** with diisocyanates, mercaptoethanol, and polyols 26471-62-5D, TDI, **polymers** with polyols, mercaptoethanol, and ethylenically unsatd. compds. 68540-56-7D, reaction products with mercaptoethanol, **polymers** with vinyl compds.

RL: USES (Uses)

(radiation-curable, for coatings, inks and adhesives)

- IT 60-24-2D, 2-Mercaptoethanol, **polymers** with diisocyanates, polyols, and ethylenically unsatd. compds.

RL: USES (Uses)

(radiation-curable, for coatings, inks, and adhesives)

L130 ANSWER 62 OF 82 HCA COPYRIGHT 2005 ACS on STN

105:210576 Coating compositions for plastic materials. Miyamoto, Yoshito (Handa Shokai G. K., Japan). Jpn. Kokai Tokkyo Koho JP 61091268 A2 19860509 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1984-213827 19841011.

- AB Compns. useful in coatings and printing inks for plastic materials are mainly composed of pigments, polyurethanes, and organic media with part or all of the polyurethanes having **thiol groups**. Thus, a thiol-terminated polyurethane was obtained by reaction of 200 parts polyester diol (obtained from adipic acid and 1,4-butanediol) and 44.4 parts isophorone diisocyanate, dissoln. of the product in EtOAc, and addition of iso-PrOH 156, isophoronediamine 13.6, and 2-aminoethanethiol 3 parts to obtain a solution containing 0.49 weight% **SH groups** and 40% solids, with viscosity 30 cP at 25°. A printing ink prepared by mixing 30 parts this solution with 30 parts TiO<sub>2</sub> and 20 parts EtOAc showed good adhesion to oriented polypropylene, PET, nylon films, even when **laminated** with polyethylene. Nylon films printed with the ink showed resistance to boiling when used as food containers.

IC ICM C09D003-72

ICS C08G018-65; C09D011-10

CC 42-12 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 35, 38

- ST plastic substrate coating compn binder; printing ink coating compn binder; polyurethane **thiol group** contg coating; binder plastic coating printing compn; boiling resistant ink plastic

- container
- IT **Coating materials**  
(for plastics, containing **thiol. group**-containing polyurethanes)
- IT Plastics, uses and miscellaneous  
RL: TEM (Technical or engineered material use); USES (Uses)  
(printing inks for, **thiol group**-containing polyurethanes, with good adhesion)
- IT Urethane **polymers**, uses and miscellaneous  
RL: TEM (Technical or engineered material use); USES (Uses)  
(mercapto-containing, binders for printing inks for plastics)
- IT Inks  
(printing, for plastics, containing **thiol group**-containing polyurethane binders for good adhesion)
- IT 9002-88-4  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**laminates** with printed plastic films, using thiol-containing polyurethane inks for good adhesion)

L130 ANSWER 63 OF 82 HCA COPYRIGHT 2005 ACS on STN

105:193039 Elastic sealants. Moroishi, Yutaka; Sakai, Isoji; Tawara, Shoji (Nitto Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61083278 A2 19860426 Showa, 8 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1984-205224 19840928.

AB Elastic sealants with good weather resistance contain (A) curing agent compns. containing polyoxyalkylene polyols and alkyl (meth)acrylate oligomers [prepared from NCO-reactive unsatd. monomers, alkyl (meth)acrylate esters, and other unsatd. monomers in the presence of chain transfer agents and 5-50 parts polyoxyalkylene polyols] and (B) polyoxyalkylene-**polyurethane** prepolymer and/or (C) alkyl (meth)acrylate oligomer isocyanate (having average .apprx.1 terminal and  $\geq 1$  other NCO groups). Thus, Bu acrylate 100, acrylonitrile 10, acrylic acid 1.5, thioglycolic acid 1.2, and polypropylene glycol 20 parts were polymerized in the presence

of AIBN to obtain a polymer (viscosity 300 P at 30°), 100 parts of which was kneaded with CaCO<sub>3</sub> 100, TiO<sub>2</sub> 23, Disparlon 3600 N (polyether ester surfactant) 1.6, and Bu<sub>2</sub>Sn dilaurate 0.5 part to obtain a curing agent composition (A'), 100 parts of which were mixed with 20 parts Takenate L 1032 (polyoxyalkylene-type isocyanate component; NCO 2.85%; obtained from polyoxyalkylene polyol and organic diisocyanate) to obtain a sealant, which showed no sagging, 50% tensile modulus 1.6 kg/cm<sup>2</sup>, tensile strength 10.5 kg/cm<sup>2</sup>, and elongation 500%. The sealant kept outdoors for 6 mo. showed no cracks.

IC ICM C09K003-10

CC 42-11 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 39

- ST **polyurethane** rubber sealant weather resistance; butyl acrylate copolymer elastic sealant; acrylonitrile copolymer elastic sealant; polypropylene glycol elastic sealant; polyoxyalkylene acrylic **polyurethane** rubber sealant
- IT Telomers  
RL: PREP (Preparation)  
(acrylic-based, preparation of, as curing agents for **polyurethane** sealants)
- IT Crosslinking agents  
(acrylic-polyoxyalkylene compns., for **polyurethane** sealants)
- IT Polyoxyalkylenes  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, for **polyurethane** sealants)
- IT Sealing compositions  
(weather-resistant, **polyurethane** rubber containing **polyacrylates** and polyoxyalkylene curing agents)
- IT 25322-69-4  
RL: USES (Uses)  
(crosslinking agents containing, for **polyurethane** elastic sealants with good weather resistance)
- IT 101647-12-5 101647-14-7 105008-93-3 105060-32-0  
RL: USES (Uses)  
(crosslinking agents containing, for **polyurethane** elastic sealants with good weather resistance, preparation of)
- IT 26471-62-5D, reaction product with Bu acrylate-2-hydroxyethyl acrylate-styrene telomer with 2-**mercaptoethanol**  
101647-14-7D, reaction product with toluene diisocyanate  
104953-33-5  
RL: USES (Uses)  
(rubber, sealants, **containing** acrylic and polyoxyalkylene curing agents, with good weather resistance)

L130 ANSWER 64 OF 82 HCA COPYRIGHT 2005 ACS on STN

104:150957 Perfluorocarbon-**based polymeric coatings** having low critical surface tensions. Schmidt, Donald L.; Harris, Robert F. (Dow Chemical Co., USA). U.S. US 4554325 A 19851119, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 1984-609264 19840511.

AB **Polymers** with wetting critical surface tension  $\leq 15$  dyne/cm, useful for mold-release coatings or (water) oilproofing of textiles, are manufactured by reaction of poly(alkenyloxazolines) or poly(alkenyloxazines) with carboxylic acids and(or) perfluoroalkyl-containing carboxylic acids and are crosslinkable by diacids. Thus, a solution containing 10% poly(2-isopropenyl-2-oxazoline)  
(mol. weight 300,000)-alkyl alc. solution 1.0, 2.0 N aqueous malonic acid

solution 0.1, 0.80 mequiv/g  $\text{CF}_3(\text{CF}_2)_3-18(\text{CH}_2)_2\text{S}(\text{CH}_2)_2\text{CO}_2\text{H}$ -alkyl alc. solution 0.8, and alkyl alc. 0.5 g was cast and cured 30 min at  $150^\circ$  to give a coating with pencil hardness 2 H and wetting critical surface tension .apprx.12 dyne/cm.

IC ICM C08F008-18

NCL 525326800

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 38, 40

IT Polyamide fibers, uses and miscellaneous

RL: USES (Uses)

(fabrics, oil- and waterproofing agents for, poly(isopropenyloxazoline)-S-(perfluoroalkylethyl) **mercaptopropionic acid adduct** coatings as)

IT Coating materials

(poly(isopropenyloxazoline)-S-(perfluoroalkylethyl) **mercaptopropionic acid adduct**, with low critical surface tension)

IT Molding apparatus for plastics and rubbers

(release coatings, poly(isopropenyloxazoline)-S-(perfluoroalkylethyl) **mercaptopropionic acid adducts** for)

IT Oilproofing

Waterproofing

(agents, poly(isopropenyloxazoline)-S-(perfluoroalkylethyl) **mercaptopropionic acid adduct** coatings, for nylon textiles)

IT 141-82-2, uses and miscellaneous

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinking agents, for poly(isopropenyloxazoline)-S-(perfluoroalkylethyl) **mercaptopropionic acid adduct** coatings, with low critical surface tension)

L130 ANSWER 65 OF 82 HCA COPYRIGHT 2005 ACS on STN

102:133704 Radiation-curable silicone release compositions. (Shin-Etsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59206465 A2 19841122 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-81360 19830510.

AB The title compns. having excellent migration resistance contain a silicone containing  $\geq 2$   $(\text{CH}_2:\text{CRZZ1})\text{Si}(\text{R1m})\text{O}(3-\text{m})/2$  unit [ $\text{R} = \text{H}$  or  $\text{Me}$ ;  $\text{R1} = (\text{un})$ substituted hydrocarbon group;  $\text{Z} = \text{O}$ ,  $\text{CO}_2$ ,  $\text{S}$ , or thio compound group;  $\text{Z1} = \text{divalent hydrocarbon group}$ ;  $\text{m} = 0-2$ ) and  $\text{Rn1SiO}(4-\text{n})/2$  unit ( $\text{R1}$  as defined above;  $\text{n} = 0-3$ ) and a silicone containing  $\geq 2$  **mercapto groups**, the ratio of the **mercapto group** to the unsatn. in the above silicone being  $(1-100):(1-100)$ . Thus, a composition from vinyl dimethylsiloxyl-terminated  $\text{Me}_2\text{SiO}-\text{Ph}_2\text{SiO}-\text{CH}_2:\text{CHOCH}_2\text{CH}_2\text{S}(\text{CH}_2)_3\text{SiMeO}$  **copolymer** (94:3:3, molar, viscosity 3000 cP) 100, siloxane of  $\text{HS}(\text{CH}_2)_3\text{SiMeO}$  unit (viscosity 30

cP) 10, and benzoin iso-Bu ether 5 parts was coated to 1.5 g/m<sup>2</sup> on a polyethylene-**laminated** paper and UV-irradiated to obtain a migration-resistant release layer for adhesives.

IC C08L083-06; C08K005-54; C08L083-08

CC 42-10 (**Coatings**, Inks, and Related Products)

IT **Coating materials**

(release, silicones, UV-curable, migration-resistant)

L130 ANSWER 66 OF 82 HCA COPYRIGHT 2005 ACS on STN

101:112531 Silicone coating materials. (Shin-Etsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59004659 A2 19840111 Showa, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-113688 19820630.

AB Radiation-curable coating agents contain siloxane **copolymers** comprising linear diorganosiloxane blocks and organopolysiloxane blocks having aliphatic unsatd. **groups** and **mercapto groups**. Thus, 136 g silicone oil containing 10 mol% diphenylsiloxane units, dimethylsiloxane units, and di-Me H siloxy terminal groups, 172 g methylvinyltetracyclosiloxane, and 0.3 g **catalyst** (0.5% Pt) were heated 6 h at 90-100°, stripped at 150°/3 mm to give 146 g oil, mixed (100 parts) with an antioxidant 0.05, Ph<sub>2</sub>CO 4, and mercaptopropylmethylsiloxane 30 parts, coated on polyethylene [9002-88-4]-**laminated** paper, and irradiated with UV to form a nonsticky coating having peel strength 80 g/in. with respect to a rubber adhesive at peel rate 300 mm/min. The coating had properties not inferior to com. solvent-type or solventless coatings.

IC C09D003-82

ICA C08L083-10

CC 42-10 (**Coatings**, Inks, and Related Products)

ST polyethylene **laminated** paper silicone coating; UV crosslinking silicone coating

IT Rubber, silicone, uses and miscellaneous

RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, containing siloxanes, radiation-curable, on

polyethylene-

**laminated** of paper)

IT Siloxanes and Silicones, uses and miscellaneous

RL: USES (Uses)

(parting materials, on polyethylene-**laminated** paper,  
UV-curable)

IT **Coating materials**

(UV-curable, siloxanes, on polyethylene-**laminated**  
paper)

IT Paper

(**laminates**, polyethylene, coatings for, siloxanes as,  
UV-curable)

IT Crosslinking

(photochem., of silicone coatings, on polyethylene-laminated paper)

IT 2554-06-5D, **polymers** with silicone and mercaptopropylmethylsiloxane 3081-07-0D, **polymers** with mercaptopropylmethylsiloxane and vinyl group -containing siloxane 66607-96-3D, **polymers** with silicone and methylvinyltetraacyclosiloxane 90375-84-1D, **polymers** with hydroxy-terminated siloxanes and mercaptopropylmethylsiloxanes  
RL: USES (Uses)

(UV-curable, for coatings on polyethylene-laminated paper)

IT 9002-88-4

RL: USES (Uses)

(paper **laminates**, coatings for, silicone, UV-curable)

L130 ANSWER 67 OF 82 HCA COPYRIGHT 2005 ACS on STN

100:35917 Diluents useful in preparing high solids coating compositions. Dowbenko, Rostyslaw; Hartman, Marvis E.; Hockswender, Thomas R. (PPG Industries, Inc. , USA). U.S. US 4409376 A 19831011, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 1982-448168 19821210.

AB Compns. useful as reactive diluents for preparing the title coatings and as film formers comprise the reaction products of ethylenically unsatd. compds. containing at least 2 **reactive groups** and a **mercapto group**-containing compound containing another functional group. Thus, 150 g mercaptoethanol and 0.5 g NaOMe were mixed at 26°, and 230 g 1,6-hexanediol diacrylate was added. After the resulting exotherm, the temperature was held at 120° to complete the reaction. The mixture was held 2.5 h at 88-112° to give a 98.72% solids **copolymer** (I) [88417-65-6]. Then, 25 g I and 25 g Cymel 303 [9003-08-1] were mixed, and 1 mL 10% p-toluenesulfonic acid was added. The resulting composition was applied to a steel substrate and baked 30 min at 121°. The coating took 50 Me2CO double rubs to remove.

IC C08G008-28; C08L061-32

NCL 525509000

CC 42-7 (**Coatings**, Inks, and Related Products)

ST mercaptoacrylate **polymer** coating; reactive diluent mercaptoacrylate coating

IT **Coating materials**

(high-solids, acrylic **resin**, reactive diluents for, mercaptoalkanol-acrylate **copolymers** as)

IT 25067-83-8

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, high-solids, reactive diluents for, mercaptoacrylate **copolymers** as)

IT 9003-08-1

RL: USES (Uses)

(**curing agent**, for acrylic **polymer**)

- high-solids coatings)
- IT 88417-64-5 88417-65-6  
RL: USES (Uses)  
(reactive diluent, for acrylic **polymer** high-solids coatings)
- L130 ANSWER 68 OF 82 HCA COPYRIGHT 2005 ACS on STN  
100:70066 Transparent plates coated with thermosetting films. (Suwa Seikosha Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58141250 A2 19830822 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-12190 19820128.
- AB The title plates are coated with films made by curing a mixture containing  
(1) a hydrolysis product produced by addition of aqueous HCl to  $R_1Si(OR_2)_4-n$  [ $R_1$  = organic moiety having epoxy group(s);  $R_2$  = C1-5 alkyl;  $n$  = 1-3] and containing  $\geq 1$  epoxy group, (2) hydrolysis product(s) produced by addition of aqueous HCl to  $\geq 1 R_mSi(OR_2)_4-m$  ( $R_1$  = C1-6 alkyl, vinyl, methacryloyloxy, **mercapto**, or organic **group** containing C1;  $R_2$  = C1-5 alkyl;  $m$  = 0-3), and (3)  $SnCl_2$ . The plates have improved resistance to abrasion, chems., corrosion, and light. Thus, 88.5 parts  $\gamma$ -glycidoxypropyltrimethoxysilane 88.5 parts and 57 parts  $(MeO)_4Si$  were dissolved into 100 parts iso-PrOH mixed with 47.7 parts 0.05 M HCl solution, held at room temperature for 2 h., and mixed with 30 parts  
acetylacetone and 0.4 part  $SnCl_2$  to give the desired mixture. An acrylic **resin** plate coated with this mixture by dipping and then heated. The hardened film was transparent and showed excellent resistance to abrasion, hot water, and heat.
- IC C09D003-82; C08G059-40; C09D003-58  
ICA B32B027-00; C08J007-04  
CC 42-10 (**Coatings**, Inks, and Related Products)  
Section cross-reference(s): 38
- IT Crosslinking catalysts  
(stannous chloride, for epoxy siloxane coatings on acrylic **resin** plates)
- IT Acrylic **polymers**, uses and miscellaneous  
RL: USES (Uses)  
(transparent plates, epoxy siloxane coatings on, abrasion- and heat- and water-resistant)
- IT **Coating materials**  
(abrasion-resistant, epoxy siloxane-based, on acrylic **resin** plates)
- IT Waterproof materials and Water-repellent materials  
(**coatings**, epoxy silane-based, on acrylic **resin** plates)
- IT Abrasion-resistant materials  
Heat-resistant materials

(coatings, epoxy siloxane-based, on acrylic resin plates)

IT **Coating materials**

(heat-resistant, epoxy siloxane-based, on acrylic resin plates)

L130 ANSWER 69 OF 82 HCA COPYRIGHT 2005 ACS on STN

98:127835 Use of organic sulfur compounds, carboxylates and/or organic complex compounds of metals, and organic bases as catalyst systems for oxidative curing of **resin** intermediates containing **mercapto groups**. Wellner, Wolfgang; Pedain, Josef; Gruber, Hermann (Bayer A.-G. , Fed. Rep. Ger.). Ger. Offen. DE 3120993 A1 19821216, 13 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1981-3120993 19810526.

AB 2,2'-dithiobisbenzothiazole (I) [120-78-5]; a carboxylate and/or organic complex of Mn, Fe, Ni, or Co; and organic base [such as diphenylguanidine (II) [102-06-7] and urotropin [100-97-0]] are used as curing catalyst for coatings of **resins** containing **mercapto groups**. Thus, a diisodecyl phthalate solution of a **mercapto group**-containing **resin** prepared from isocyanate prepolymer and HOCH<sub>2</sub>CH<sub>2</sub>SH was mixed with 2% 70:15:15 I-II-eurotropin mixture and 2% Mn octanoate [6535-19-9] solution (containing 6% Mn) and coated on glass. The surface of the coating was dry after 15 min at 23°, compared with 20-25 min for coatings containing Mn octanoate and thiuram or (Bu<sub>2</sub>NCS<sub>2</sub>)<sub>2</sub>Zn as

the

curing catalysts.

IC C08L081-04; C08K005-47; C08K005-09; C08K005-56; C08K005-17

CC 42-10 (**Coatings**, Inks, and Related Products)

ST thiol **resin** curing catalyst; crosslinking catalyst thiol **resin**; benzothiazolyl disulfide curing polythiol; manganese catalyst curing polythiol; iron catalyst curing polythiol; polyurethane polythiol curing catalyst

IT Crosslinking catalysts

(dithiobisbenzothiazole-metal compound-organic **base**, for polythiol **coatings**)

IT Thiols, **polymers**

RL: USES (Uses)

(**polymers**, curing of, catalysts for)

IT **Coating materials**

(polythiols, curing of, catalysts for)

L130 ANSWER 70 OF 82 HCA COPYRIGHT 2005 ACS on STN

96:105884 Coating of precoated metals. (Kansai Paint Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 56141884 A2 19811105 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1980-46618 19800409.

AB Precoated metals were coated to 20-100-μ dry thickness with a thermosetting composition containing an epoxy group-containing **polymer**



a compound containing amino, carboxy, acid anhydride, hydroxy, and/or **thiol groups**, and an isocyanate. For example, a phosphated galvanized steel specimen precoated (5  $\mu$ ) with a ~~solvent-based amino-alkyd containing Sr chromate~~ and TiO<sub>2</sub> (baked at 230°, 90 s) was coated to 50- $\mu$  dry thickness with a mixture of 49:10:31:10 Bu acrylate-glycidyl methacrylate-Me methacrylate-styrene **copolymer** [37953-21-2], 1,10-decanedicarboxylic acid [693-23-2] 10, Takenate 84X-2 (a blocked isocyanate) [80893-52-3] 20, TiO<sub>2</sub> 60, Ph<sub>3</sub>SnCl 0.5, PhMe 80, and EtOCH<sub>2</sub>CH<sub>2</sub>OAc 20 parts and cured at 260° for 90 s to give a coating having excellent flexibility, adhesion, and resistance to impact, solvents, and scratch.

IC B05D007-14

CC 42-7 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 55

ST glycidyl methacrylate **copolymer** coating; isocyanate crosslinker acrylic coating; decanedicarboxylic acid crosslinker coating; precoated steel coating

IT Crosslinking agents

(decanedicarboxylic acid and isocyanate, for glycidyl methacrylate **copolymer** coatings)

IT **Coating materials**

(solvent-based, glycidyl methacrylate **copolymers**, for precoated metals)

IT 693-23-2 80893-52-3

RL: USES (Uses)

(crosslinking agents containing, for glycidyl methacrylate **copolymer** coatings)

L130 ANSWER 71 OF 82 HCA COPYRIGHT 2005 ACS on STN

92:60503 Non-coloring, abrasion-resistant, adherent coating for gold and silver surfaces. Haluska, Loren A. (Dow Corning Corp., USA). U.S. US 4173553 19791106, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 1977-863969 19771223.

AB Weathering and abrasion-resistant **clear coatings**

for Ag and Au comprise colloidal dispersions of SiO<sub>2</sub> in aqueous alc. siloxanes based on hydrolyzed mercaptoalkylsilyl and alkylsilyl compds. at pH 2.8-5.5. Thus, a siloxane composition was prepared from equal amts. of MeSi(OMe)<sub>3</sub> and HS(CH<sub>2</sub>)<sub>3</sub>Si(OMe)<sub>3</sub> plus Me Cellosolve and then treated with aqueous HOAc and then with HO(CH<sub>2</sub>)<sub>2</sub>NMe<sub>3</sub>OAc [14586-35-7]. The **resin**, containing 50 % weight colloidal SiO<sub>2</sub>, was coated on Ag foil and cured at 125° to provide an adhesive, abrasion-resistant film.

IC C08J003-02; C08L083-04

NCL 260029200M

CC 42-7 (**Coatings**, Inks, and Related Products)

IT **Coating materials**

(mercaptoalkyl-substituted siloxanes and silica, for gold and

- silver)
- IT Siloxanes and Silicones, uses and miscellaneous  
 RL: USES (Uses)  
 (mercaptoalkyl group-containing, coating compns.,  
 containing silica, for gold and silver)
- IT 7440-22-4, uses and miscellaneous 7440-57-5, uses and  
 miscellaneous  
 RL: USES (Uses)  
 (coating compns. for, mercaptoalkyl group  
 -containing siloxanes and silica as)
- IT 7631-86-9, uses and miscellaneous  
 RL: USES (Uses)  
 (coating compns., containing mercaptoalkyl group  
 -terminated siloxanes, for gold and silver)
- L130 ANSWER 72 OF 82 HCA COPYRIGHT 2005 ACS on STN  
 91:6539 Coating of plastic moldings. Ando, Yukimasa; Takiyama,  
 Eiichiro; Kanehiro, Haruyuki; Hanyuda, Toshiaki; Mori, Kojiro;  
 Ogata, Sakae (Showa Highpolymer Co., Ltd., Japan). Jpn. Kokai  
 Tokkyo Koho JP 54003884 19790112 Showa, 4 pp. (Japanese). CODEN:  
 JKXXAF. APPLICATION: JP 1977-69197 19770611.
- AB A plastic molding was primed with a mixture of a prepolymer from a  
 polythiol and a compound containing >1 unsatn. **reactive** to the  
**thiol groups**, cured, and metalized to provide a  
 surface for electrostatic or electrophoretic coating. For example,  
 a glass fiber-reinforced polyester molding was sanded, coated to 15  
 μ thickness with a composition from 21.2 g  
 diallylidenepentraerythritol, 22.7 g 95% C(CH<sub>2</sub>O<sub>2</sub>CCH<sub>2</sub>SH)<sub>4</sub>, and 2.5  
 phr Ph<sub>2</sub>CO, UV-cured, silvered using AgNO<sub>3</sub> and a reducer,  
 UV-irradiated, electrostatically topped with F 388 [70323-31-8]  
 (epoxy-melamine) to 30 μ thickness, and baked at 150° for  
 30 min to give a pinhole-free coating with excellent adhesion and  
 showing no blister in 10 24-h cycles in a humidity box (50°,  
 relative humidity >98%).
- IC C08J007-04; B05D007-02; C25D013-00  
 CC 42-10 (Coatings, Inks, and Related Products)  
 IT Coating process  
 (electrophoretic, of polyester moldings, conductive layer  
 formation in)
- IT Coating process  
 (electrostatic, of polyester moldings, conductive layer formation  
 in)
- IT Coating materials  
 (primers, sulfur-containing polymers, for conductive metal  
 coatings,  
 in electrostatic and electrophoretic coating of polyester  
 moldings)

L130 ANSWER 73 OF 82 HCA COPYRIGHT 2005 ACS on STN

90:205995 Primers for conductive coatings. Takiyama, Eiichiro; Kanehiro, Haruyuki; Hanyuda, Toshiaki; Mori, Kojiro; Ogata, Sakae; Ando, Yukimasa (Showa Highpolymer Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 54003843 19790112 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1977-69196 19770611.

AB A mixture of (or prepolymer from) a polythiol and a compound containing >1

unsatn. **reactive** to the **thiol groups**

was used as a primer for metalizing various substrates, including plastics and glass. For example, a mixture of 21.2 g diallylidenepentaerythritol and 22.7 g 95% C(CH<sub>2</sub>O<sub>2</sub>CCH<sub>2</sub>SH)<sub>4</sub>, containing 2.5 phr Ph<sub>2</sub>CO, was coated to 15 μ thickness on glass, UV-irradiated, and silvered using AgNO<sub>3</sub> and a reducing agent to give a nonpeelable, scratch-resistant coating.

IC C09D005-24

CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 57

IT **Coating materials**

(primers, polyoxyalkylene-polythioalkylene resins, for metalizing glass and plastics and gypsum)

L130 ANSWER 74 OF 82 HCA COPYRIGHT 2005 ACS on STN

88:39012 Organopolysiloxane **copolymers** containing polyoxyalkylene-mercapto radicals. Isobe, Kenichi; Yoshioka, Hiroshi (Shin-Etsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 52103500 19770830 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1976-20103 19760227.

AB The title organosiloxanes are prepared by reacting a polyoxyalkylene-containing organosiloxane (I) with NH<sub>3</sub> and thiourea

(II) or its derivs. [R<sub>3</sub>R<sub>4</sub>NC(S)NR<sub>5</sub>R<sub>6</sub> where R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, and R<sub>6</sub> = H or monovalent hydrocarbyl, resp.]. I contained (a) the polyoxyalkylene group (CH<sub>2</sub>)<sub>l</sub>O(C<sub>2</sub>H<sub>4</sub>O)<sub>m</sub>(C<sub>3</sub>H<sub>6</sub>O)<sub>n</sub>R<sub>1</sub> [R<sub>1</sub> = H, acyl, or monovalent hydrocarbyl, l ≥ 0, m and n = 0-150, and (m + n) = 1-150], and (b) the halo-substituted hydrocarbyl group -R<sub>2</sub>X (R<sub>2</sub> = divalent hydrocarbyl and X = halogen), both of which are bonded directly to Si. The organosiloxanes are blocking inhibitors for water-based paints. Thus, a mixture of Me<sub>3</sub>SiO(SiMeHO)<sub>4</sub>[Si(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Cl)MeO]<sub>2</sub>(SiMe<sub>2</sub>O)<sub>2</sub>SiMe<sub>3</sub> 69, HO(C<sub>2</sub>H<sub>4</sub>O)<sub>2</sub>O(C<sub>3</sub>H<sub>6</sub>O)<sub>5</sub>Bu 200, and PhMe 200 g was refluxed 1 h with azeotropic removal of water. The temperature was lowered to <40° and 1 g Et<sub>2</sub>NOH was added. The mixture was refluxed 10 h, 4.7 g II was added, and NH<sub>3</sub> was introduced at 150 mL/h for 20 h. Removal of PhMe and low-boiling products at 100°/2 mm, followed by separation of isolated HCl-salt, left the water-soluble

clear

liquid Me<sub>3</sub>SiO[Si[O(C<sub>2</sub>H<sub>4</sub>O)<sub>2</sub>O(C<sub>3</sub>H<sub>6</sub>O)<sub>5</sub>Bu]MeO]<sub>4</sub>[Si(CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>SH)MeO]<sub>2</sub>(SiMe<sub>2</sub>O)<sub>2</sub>SiMe<sub>3</sub> (610 cSt at 25°).

IC C08G077-46  
CC 42-4 (**Coatings**, Inks, and Related Products)  
IT **Mercapto group**  
(polyoxyalkylene-siloxane oligomers containing, blocking inhibitors,  
for water-based paints)  
IT **Coating materials**  
(water-based, blocking inhibitors for, polyoxyalkylene- and mercapto-containing siloxane oligomers as)  
IT 62-56-6DP, reaction products with polyoxyalkylene-containing siloxane oligomers and ammonia, **mercapto group**-containing  
7664-41-7DP, reaction products with thiourea and polyoxyalkylene-containing siloxane oligomers, **mercapto group**-containing  
RL: PREP (Preparation)  
(manufacture of, for blocking inhibitors for water-based paints)

L130 ANSWER 75 OF 82 HCA COPYRIGHT 2005 ACS on STN  
87:186217 Radiation-hardenable polydiorganosiloxane preparation.  
Bokerman, Gary Ned; Gordon, David James; Colquhoun, Joseph Adams  
(Dow Corning Corp., USA). Ger. Offen. DE 2622126 19770908, 30 pp.  
(German). CODEN: GWXXBX. APPLICATION: DE 1976-2622126 19760518.

AB Coating compns. which could be applied and hardened with less energy requirements than previously reported compns. in the manufacture of release papers for strongly adhering adhesives are prepared by mixing a liquid triorganosiloxy-end-blocked poly(diorganosiloxane) with viscosity  $\geq 0.5$  Pa-s at 25° [with 50-90% of the organic groups being Me, 1-5% of the organic groups being (CH<sub>2</sub>)<sub>n</sub> SH (n = 1-4), and the remainder of the organic groups being C2-6 alkyl or phenyl] with a methylvinylpolysiloxane having  $\geq 3$  vinyl groups/mol. in such amts. that the mixture contained 0.2-1.0 Si-bonded vinyl **groups/Si-bonded mercaptoalkyl groups**.  
Thus, 90 parts Me<sub>3</sub>SiO-end-blocked poly(dimethylsiloxane) having 2.5% HS(CH<sub>2</sub>)<sub>3</sub> groups and viscosity 1.62 Pa-s was mixed with 1.5 parts benzophenone and 3 parts [Me(CH<sub>2</sub>:CH)SiO]<sub>n</sub> where n is a value between 4 and 8 so that the mixture contained 0.56 vinyl groups/Me(CH<sub>2</sub>)<sub>3</sub> groups, and the mixture was coated at 1.1 g/m<sup>2</sup> on 40-lb. weight kraft paper and cured with a UV lamp to give a release paper. This release paper was overcoated with a 76.2-mm layer of GMS-263 [64523-07-5] (acrylic **polymer**) adhesive, dried, and pressed with 60-lb. weight Mat-Litho-Paper in an offset printing machine and aged 20 h at 70° to give a **laminate**.  
This **laminate** exhibited better sepn.properties than a similar **laminate** in which the siloxane was a **copolymer** having Me<sub>2</sub>SiO and groups and Me<sub>2</sub>SiO and Me(CH<sub>2</sub>:CH)SiO groups in the chain.

IC C09D003-82  
CC 42-10 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 43

IT Acrylic **polymers**, uses and miscellaneous

RL: USES (Uses)

(adhesives, parting materials for, mercaptoalkylvinylsiloxane-coated paper as)

IT **Coating materials**

(mercaptoalkylvinylsiloxanes, for release papers for strongly adhering adhesive)

L130 ANSWER 76 OF 82 HCA COPYRIGHT 2005 ACS on STN

84:123560 Anticorrosive **resin** coating compositions. Sunamori, Takashi; Nishii, Noboru (Mitsubishi Rayon Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 51005340 19760117 Showa, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1974-75422 19740703.

AB Anticorrosive **resin** coating films were obtained by coating substrates with aqueous solns. containing water-miscible vinyl compds.,

compds. generating ceric ions, S compds. generating  $SxOyn^-$  ions ( $x = 1-6$ ;  $y = 1-7$ ;  $n = 0-2$ ), compds. having or generating OH,  $NH_2$ ,  $NH_4^+$ , **SH**, or **aldehyde group**, and polymerizable double bonds (optional). Thus, 98 ml of an aqueous solution

containing 7.03 g

acrylamide [79-06-1] and 0.01 mole/l. N,N'-methylenebis(acrylamide) [110-26-9] was mixed with 200 mg MeOH [67-56-1] and 2 ml of 1N  $HNO_3$  solution containing 0.1 mole/l. ceric ion (as ceric ammonium nitrate [16774-21-3]) to give an aqueous white solution A rusted steel sheet

was

coated with the white solution and then sprayed with an aqueous solution

containing 2%  $Na_2SO_3$  [7757-83-7] to give an anticorrosive **resin coating film** **several** min after **coating**.

IC B05D

CC 42-7 (**Coatings**, Inks, and Related Products)

Section cross-reference(s): 55

ST acrylamide **resin** coating; anticorrosive **resin** coating steel; ceric complex **polymn catalyst**; sulfite ceric complex **catalyst**

IT **Coating materials**

(acrylamides, containing ceric ammonium nitrite, methyl alcohol.

and

sodium sulfite, anticorrosive)

L130 ANSWER 77 OF 82 HCA COPYRIGHT 2005 ACS on STN

86:31096 Lacquer formulation. Massy, Derek J. R.; Winterbottom, Kenneth (Ciba-Geigy A.-G., Switz.). Ger. Offen. DE 2621002 19761125, 39 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1976-2621002 19760512.

AB Thermosetting coatings, useful on furniture and **automobiles**

, contain 100 parts polyester having  $\geq 2$  **SH groups** and  $\geq 1$   $\geq 8$ -C acyl group/mol., 10-45 parts etherified, methylolated aminoplast, and solvents. Thus, refluxing phthalic anhydride 131.8, coconut fatty acids 82.4, glycerol 39, pentaerythritol 57.7, HSCH<sub>2</sub>CO<sub>2</sub>H [68-11-1] 40.6, and xylene 30 parts 5 h with H<sub>2</sub>O distillation and adding 293 parts xylene gives a 50% solids **resin** solution, acid equivalent 0.314/kg, SH equivalent 0.560/kg 25° viscosity 636 mPa-s. A mixture of this solution 80, hexamethylolmelamine [531-18-0] tetra-Me ether 20, and TiO<sub>2</sub> 60 parts is coated to 50 $\mu$  on glass or steel and baked 10 min at 150° to give a film with Persoz hardness 320 s, 60° gloss 80, and satisfactory flexibility.

IC C09D003-66

CC 42-9 (**Coatings, Inks, and Related Products**)

IT Thiols, **polymers**

RL: USES (Uses)

(alkyd coatings modified by, aminoplast crosslinkers for)

IT **Coating materials**

(alkyd **resins**, thiol-modified, containing aminoplast crosslinkers)

IT 68-11-1D, **polymers** with carboxylic acids and polyols

70-49-5D, **polymers** with carboxylic acids and polyols

107-96-0D, **polymers** with carboxylic acids and polyols

61503-48-8

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, containing aminoplast crosslinkers)

L130 ANSWER 78 OF 82 HCA COPYRIGHT 2005 ACS on STN

83:117260 Photocurable polyene-polythiol compositions containing the adduct of diallylmalate and toluene diisocyanate. Guthrie, James L.; Rendulic, Francis J. (W. R. Grace and Co., USA). U.S. US 3877971 19750415, 11 pp. (English). CODEN: USXXAM. APPLICATION: US 1974-497427 19740814.

AB Photocurable lacquer comps. useful for high speed overcoating of printed metal articles, e.g. cans, having as essential ingredients a polyene containing  $\geq 2$  reactive unsatd. carbon-to-carbon bonds per mol., a polythiol containing  $\geq 2$  **thiol groups** per mol., a **resin** component, and optionally a sensitizer, were applied to a substrate and exposed to actinic radiation for sufficient time to photocure the composition and provide an

overcoating

with high strength, good scratch resistance, freedom from tackiness and excellent transparency. Thus, phthalic anhydride 275, maleic anhydride 60.8, adipic acid 90.5, and diethylene glycol 328 g were heated 3 hr at 200°, then cooled to give a polyester **resin** (I) [32505-78-5]. A photocurable lacquer composition was prepared by mixing at 50° I 10, triallyl isocyanurate [1025-15-6] 10, pentaerythritol tetrakis(3-mercaptopropionate)

[7575-23-7] 14, benzophenone 0.5, phosphorous acid 0.025, and Irganox 1076 (antioxidant) 0.05 g and heating the mixture to 70° to dissolve the benzophenone producing a clear homogeneous mixture having a viscosity of 12,000-18,000 cP and pH of 4.5-5.5. The lacquer was applied at 25° as a liquid film of 0.2-0.4 mil thickness using a conventional roller coater to steel can body stock having a red printing ink printed thereon. Both the printed area and adjacent non-printed portions of the steel were coated, and the film was exposed to uv light using a 5000 W Hanovia lamp 4 in. from the film for 3-5 sec. The film cured to a **clear solid coating** which had high gloss, strong bonding to both the printed ink and the steel, and excellent abrasion resistance.

IC B41J; B01J

NCL 427053000

CC 42-10 (Coatings, Inks, and Related Products)

IT Coating materials

(polyene-polyester-polythiol, photocurable)

IT 124-02-7

RL: TEM (Technical or engineered material use); USES (Uses)  
(coatings, containing epoxy **resins**, unsatd. polyesters and polythiols, photocrosslinkable)

L130 ANSWER 79 OF 82 HCA COPYRIGHT 2005 ACS on STN

84:166404 Lacquer composition hardenable by using actinic radiation. (W. R. Grace and Co., USA). Neth. Appl. NL 7400770 19750723, 32 pp. {Dutch}. CODEN: NAXXAN. APPLICATION: NL 1974-770 19740121.

AB Light-curable coating compns. contained polyene components with >2 ethylene double bonds/mol., a polythiol component with >2 **SH group/mol.**, and a **resin** component, and can be cured to **clear**, strong, durable **coatings**. Thus, phthalic anhydride 275, maleic anhydride 60.8, adipic acid 90.5, and diethylene glycol 328 g were heated 3 hr at 200° to give a polyester **resin** (I) [32505-78-5]. A mixture of I 10, triallyl isocyanurate [1025-15-6] 10, pentaerythritol tetrakis(3-mercaptopropionate) [7575-23-7] 14, benzophenone 0.5, phosphorous acid 0.025, and antioxidant 0.05 g were mixed at 50° and heated to 70° to give a **clear coating** composition with viscosity 12,000-18,000 cP and pH 4.5-5.5. The composition was coated at a thickness of 0.05-0.01 mm

and

25° and cured 3-5 sec with a uv lamp.

IC C09D

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55

IT Coating materials

(polyene-polyester-polythiol mixts., uv-curable)

L130 ANSWER 80 OF 82 HCA COPYRIGHT 2005 ACS on STN

81:51250 Radiation curable polyene-polythiol coating compositions.

Guthrie, James L.; Rendulic, Francis J. (W. R. Grace and Co.). U.S.

US 3787303 19740122, 7 pp. (English). CODEN: USXXAM. APPLICATION:

US 1971-209369 19711217.

AB Photocurable lacquers were prepared from a polythiol containing .geq.2 **SH groups** per mol., polyenes containing .geq.2 unsatd.

carbon-carbon bonds per mol., photoinitiation catalysts and unsatd.

polyesters. Thus, 10 g of adipic acid-diethylene glycol-maleic

anhydride-phthalaic anhydride **copolymer** [32505-78-5] was

prepared and mixed with triallyl isocyanurate [1025-15-6] 10,

pentaerythritol tetrakis(3-mercaptopropionate) [7575-23-7] 14,

benzophenone 0.5, phosphorous acid 0.025 and Irganox 1076

antioxidant 0.05 g. The photocurable lacquer was applied at 25.deg.

to steel can body stock having a red printing ink printed thereon

and the coating (0.2-0.4 mil.-thickness) exposed to uv light using a

5000 W Hanovia lamp to give a **clear solid coating**

with high gloss, strong bonding to both the printed ink and the steel, and excellent abrasion resistance.

IC B01J

NCL 204159150

CC 42-3 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT **Coating materials**

(polyene-polyester-polythiol, photo-curable)

IT 2,5-Furandione, **polymer** with hexanedioic acid,

1,3-isobenzofurandione and 2,2'-oxybis[ethanol],

trimethylolpropane diallyl ether-terminated

Ethanol, 2,2'-oxybis-, **polymer** with 2,5-furandione,

hexanedioic acid and 1,3-isobenzofurandione, trimethylolpropane

diallyl ether-terminated

Hexanedioic acid, **polymer** with 2,5-furandione,

1,3-isobenzofurandione and 2,2'-oxybis[ethanol],

trimethylolpropane diallyl ether-terminated

RL: USES (Uses)

(coatings containing, photo-curable)

IT 107-18-6D, 2-Propen-1-ol, reaction product with 3-isocyanatomethyl-

3,5,5-trimethylcyclohexyl isocyanate 124-02-7D, 2-Propen-1-amine,

N-2-propenyl-, reaction product with bisphenol A diglycidyl ether

682-09-7D, 1-Butanol, 2,2-bis[(2-propenyloxy)methyl]-, polyesters

terminated by 1025-15-6 1675-54-3D, Oxirane,

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-,

reaction product with diallyl amine 2549-40-8D, 1,1'-Biphenyl,

4,4'-diisocyanato-2,2'-dimethyl-, reaction product with

trimethylolpropane diallyl ether 3739-67-1 4098-71-9D,

Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-,

reaction product with allyl alcohol 7575-23-7 25322-68-3

26471-62-5D, Benzene, 1,3-diisocyanatomethyl-, reaction product with



diallyl maleate 27275-32-7 32099-14-2D, Butanedioic acid, hydroxy-, di-2-propenyl ester, reaction product with toluene diisocyanate 32505-78-5 32505-78-5D, 1,3-Isobenzofurandione, **polymer** with 2,5-furandione, hexanedioic acid and 2,2'-oxybis[ethanol], trimethylolpropane diallyl ether-terminated 42903-62-8 52440-36-5

RL: USES (Uses)

(coatings containing, photo-curable)

L130 ANSWER 81 OF 82 HCA COPYRIGHT 2005 ACS on STN

80:109980 Coating rigid cores. Hubbard, Bruce W., Jr.; Kehr, Clifton L. (W. R. Grace and Co.). U.S. US 3767457 19731023, 12 pp. (English). CODEN: USXXAM. APPLICATION: US 1971-200339 19711119.

AB Industrial rollers were prepared by mixing a photocurable composition consisting essentially of 2-98 parts by weight of an ethylenically unsatd. polyene contg .geq. 2 reactive unsatd. C to C bonds per mol., 98-2 parts of polythiol containing .geq. 2 **thiol groups** per mol., and 0.0005-50 parts of a photocuring rate accelerator, feeding a thin layer of the composition onto a rotating core

cylinder where it could be smoothed by a doctor blade, and photocuring the coating by a uv light source which was located on the opposite side of the cylinder from the place where the composition was applied so that premature hardening did not occur in the feed stock. Thus, 3456.3 g poly(propylene ether) glycol [25322-69-4] and 1.7g dibutyltin laurate was degassed 1 hr at 110.deg. and cooled to 25.deg., 207g allyl alc. and 609g of an 80-20% isomer mixture of tolylene-2,4-diisocyanate [584-84-9] and tolylene-2,6-diisocyanate [91-08-7] were added and mixed while cooling for 80 min, then heated to 60.deg. for 115 min, then to 70.deg. and vacuum stripped for 1 hr to give I. I 100, pentaerythritoltetrakis( $\beta$ -mercaptopropionate) [7575-23-7] 10, benzophenone 1.5, and Ionol (antioxidant) 0.1 part were mixed to give a photocurable composition which was applied and photocured as described above.

**Multiple, consecutive layers** could be built up, each being placed on a partially hardened photocured sublayer until the desired thickness was obtained, and the photocured surface could be ground and buffed to accurately controlled dimensions.

IC B44D; C08F

NCL 117093310

CC 42-10 (Coatings, Inks, and Related Products)

IT Thiols, **polymers**

RL: TEM (Technical or engineered material use); USES (Uses)

(coatings, containing polyenes, photocurable, for industrial rollers)

IT **Coating process**

(of rigid cores with photocurable coating compns., for industrial rollers)

IT **Coating materials**

(polyene-polythiol, photocurable, for industrial rollers)

L130 ANSWER 82 OF 82 HCA COPYRIGHT 2005 ACS on STN

77:50331 Heat-expandable **polymeric** coating compositions.

Sawko, Paul M. (United States National Aeronautics and Space Administration). Ger. Offen. DE 2054511 19720413, 19 pp. (German).

CODEN: GWXXBX. APPLICATION: DE 1970-2054511 19701105.

AB Coatings, which expanded when heated at high temps., contained organic components which carbonized at high temps., **catalyst**, ammonium 4-nitroaniline-2-sulfonate (I) [4346-51-4], a**polymer** component with **mercaptan** end **groups**, and an **epoxy resin**. The

coatings were heat-resistant and flame-resistant. Thus, a typical coating composition was prepared by mixing LP-3

[HS(C<sub>2</sub>H<sub>4</sub>OCH<sub>2</sub>OC<sub>2</sub>H<sub>4</sub>SS)6C<sub>2</sub>H<sub>4</sub>OCH<sub>2</sub>OC<sub>2</sub>H<sub>4</sub>SH (II) [35344-33-3] with I in Me Et ketone to form a dispersion. Epon 828 [25068-38-6] (75% toluene solution) and (Me<sub>2</sub>NCH<sub>2</sub>)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>OH were added and mixed. The coating composition was applied as a 30-mil covering to steel, dried, and

heated

at 38.deg. in air with 90% relative humidity for 5 weeks, with periodic heating to 350.deg. for 20 min. **Polymers** of structure R[O(C<sub>3</sub>H<sub>6</sub>O)nCH<sub>2</sub>CH(OH)CH<sub>2</sub>SH]<sub>3</sub>, where R = low alkyl and n = 20-5 were also used in place of II.

IC C09D; C04B

CC 42-10 (**Coatings**, Inks, and Related Products)ST coating expandable carbonizable; ammonium nitroanilinesulfonate; heat resistance coating; fire resistance coating; LP 3 coating; polysulfide coating; Epon 828 coating; **epoxy resin** coating; polypropylene oxide coating

IT Polysulfides

RL: USES (Uses)

(-polyether, reaction products with **epoxy resins**, for heat expandable coatings)

IT Polyethers

RL: USES (Uses)

(-polysulfide, reaction products with **epoxy resins**, for heat-expandable coatings)

IT Heat-resistant materials

(coatings, **mercapto group**-terminated compound **reaction** products with ethoxy **resins** as)

IT Fire-resistant materials

(coatings, polysulfide-**epoxy resin** reaction products)IT **Coating materials**(epoxy **resin**-polysulfide reaction products, heat- and fire-resistant)

IT 4346-51-4

RL: USES (Uses)

(epoxy **resin**-polysulfide coatings containing,  
heat-expandable)

IT 35344-33-3

RL: USES (Uses)

(reaction products with ethoxy **resins**, coatings, heat-  
and fire-resistant)

=>